

MAY 1959

Industrial Development

and manufacturers record

THE NATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION

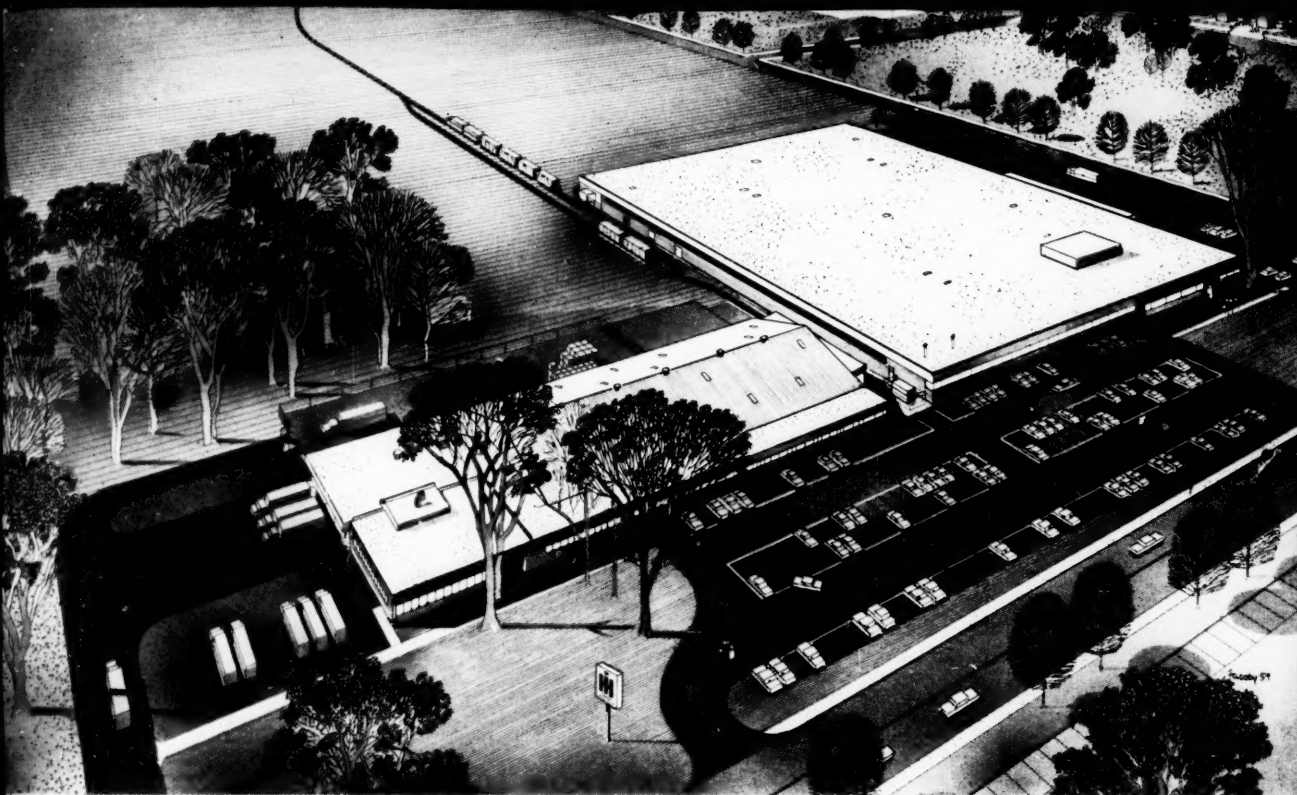


Cleaver-Brooks' J. C. Cleaver, who invented the packaged boiler, got his inspiration from an old steam jenny like the model shown. On page 51 he outlines the steps his company took to become pre-eminent in its field.

AREA FEATURE

The dynamic St. Louis
Metropolitan Area p. 17

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INDUSTRIAL DEVELOPMENT

and manufacturers record

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EDITORIAL

and plant location reports

Since before the turn of the century MANUFACTURERS RECORD has issued special studies of specific cities and areas to assist the site-seeking industrial firm. Today, through the combined coverage of INDUSTRIAL DEVELOPMENT and MANUFACTURERS RECORD this tradition of leadership in this field is being extended and carried forward.

Before you go site-seeking, take advantage of background studies which have already been prepared for the areas listed below. Generally, reprints are available gratis.

Area	Publication	Date
Iowa (ID-MR)		Apr., 1959
Puerto Rico (ID-MR)		Mar., 1959
Washington, D. C. Area (ID-MR)		Feb., 1959
Cleveland Corridor (ID-MR)		Jan., 1959
West Texas (ID-MR)		Jan., 1959
Rome and Floyd County, Ga. (ID-MR)		Dec., 1958
Sacramento (ID-MR)		Nov., 1958
North Carolina (ID-MR)		Oct., 1958
Orange County, Calif. (ID-MR)		Sept., 1958
Erle County, Pa. (ID-MR)		Aug., 1958
New Bedford, Mass. (ID-MR)		Aug., 1958
Lower Va. Peninsula (ID-MR)		July, 1958
Mattoon, Ill. (ID-MR)		June, 1958
Florida Bay Area (ID-MR)		June, 1958
Western Mississippi (ID)		May, 1958
Savannah Ga., area (MR)		May, 1958
Knoxville, Tenn. (MR)		April, 1958
Charleston, S. C. (MR)		March, 1958
Dallas, Tex. (MR)		Feb., 1958
Louisiana (ID)		Jan., 1958
Cobb County, Ga. (MR)		Jan., 1958
Arizona (ID)		Dec., 1957
Pennsylvania (ID)		Sept., 1957
Canada (ID)		Aug., 1957
Petersburg, Va. (MR)		Aug., 1957
Southwest Ga. (MR)		July, 1957
Charlotte, N. C. (MR)		Feb., 1957
Meridian, Miss. (MR)		Jan., 1957
Little Rock, Ark. (MR)		Oct., 1956
Raleigh, N. C. (MR)		Aug., 1956
North Carolina (ID)		July-Aug., 1956
Memphis, Tenn. (MR)		May, 1956
Jackson, Miss. (MR)		March, 1956

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SOUTHERN CALIFORNIA

IN ~~INDUSTRY~~ ...

There's a new industrial development a few blocks down the street from us. We know it's new because we saw it go up last year.

But you'd never guess it. The project was obsolete the day it was finished. Entrances and parking areas are poorly laid out. The trees have been leveled and there's little or no landscaping. There is a conglomeration of signs of various sizes and colors. Worst of all, the buildings themselves are eyesores—there's no evidence an architect ever saw the plans.

We haven't been inside the buildings. Functionally, they may be satisfactory. But from the community's viewpoint they are a fresh scar, an aesthetic tragedy.

The saddest aspect is that the builder probably thinks he has made a shrewd investment. He may have boasted of getting the most for his money by "leaving off the frills." Obviously, he's a man who has yet to learn the facts of life about industrial planning.

As we've said so many times, planning doesn't cost money—it usually results in substantial savings. Without increasing his costs appreciably we'll bet the developer in question could have increased his property value by 25 per cent! It doesn't cost much to leave trees, but when they're cut it's practically impossible to replace them. Similarly, a good site plan can often save dollars in grading and paving.

But most important is the fact that a well-planned, aesthetically-pleasing development will continue to attract blue-chip tenants a decade or so hence. When the original leases expire, the property will still attract desirable tenants. In his own selfish interest, the developer cannot afford the luxury of inadequate planning.

Everywhere we go, we see evidence of planning ignorance. There are fresh mistakes in every major city, often within a few miles of expensive urban renewal projects. This is one of the great challenges to those who are responsible for industrial expansion programs.

Whiles it is perfectly true that such planning errors are to be found in all types of new construction—residential, commercial, and industrial—it is a fact that the industrial builder is in the most vulnerable position. The average citizen carries a deep-seated prejudice regarding the proper place for industrial buildings in the community.

Industrial construction is widely regraded as a "low" land use—fit only for the undesirable sections of town. We've pointed out that many citizens automatically think of industrial areas as noisy, dirty, and congested. Only in recent years have we been able to begin to create a new concept for the modern industrial district.

We're making substantial progress in developing industrial areas that have the atmosphere of a college campus. Many citizens are finding that industry can indeed be a good neighbor. In some areas, resistance to industrial zoning has declined.

But this good work is quickly forgotten when some uninformed developer commits a fresh atrocity. It takes ten well-planned projects to undo the damage done by one that is unplanned! Everytime a new monstrosity is built, this is a loss for all citizens. This fact is recognized in many planning laws which give local planning authorities broad powers to regulate development.

We dislike government regulation of industry as much as anyone, yet we feel that many planning commissions fail to go far enough in controlling aesthetic factors in new developments. We've discussed this with a number of planning executives in industry and they agree. Well-managed firms want to locate in areas with proper restrictions just as intelligent property owners select home sites in subdivisions which are suitably controlled.

The problem is primarily one of education. We believe local planning boards could prevent many atrocities by making suitable recommendations to those who are building new units. Government regulation should follow only when educational efforts are unheeded.

Another of our pet peeves is the sloppy housekeeping to be found in so many of our existing industrial areas. Far too many firms (including a chemical plant next door) keep their grounds looking like garbage dumps. This, too, builds the wrong type of image in the mind of the average citizen and hurts all industrialists.

We don't believe the great majority of industrial citizens would object to certain minimum standards for housekeeping. With a few exceptions it would not be unreasonable, in our opinion, to require unsightly junk to be fenced or screened. This is definitely in line with the concept of corporate citizenship so widely heralded today.

We feel so strongly about these aesthetic considerations in industrial expansion that we intend to keep harping on them. In fact, we hope you'll join in the crusade. If there's a new atrocity in your neighborhood, tell us about it—send a picture if possible. And if you have ideas as to how these things can best be controlled, let's share them with other readers. May we hear from you?

—H.M.C.

Community Audit Quick Success— Sioux City, Iowa, Heads List

The Registered Community Audit program announced in last month's issue has met with quick and enthusiastic response throughout the country. Already, hundreds of community groups are compiling audit reports for interested industrial firms.

Under the plan, ID maintains a National Community Audit Registry wherein audit reports on communities are filed for reference use by site-seeking firms. The audit form is a compact digest of facts about such community characteristics as population, taxes, transportation, planning and zoning, utilities, and industrial sites.

First community to submit an audit report in complete and acceptable form was Sioux City, Iowa. The report was compiled by George R. Wimmer, Manager, the Industrial Development Council, Inc. If you are interested in considering Sioux City as a possible location, you may obtain a copy of the audit gratis by writing, on your firm letterhead, to the Research Department, Conway Publications.

The report shows that Sioux City, 81 miles North of Omaha, had a

city population of 83,991 in 1950 and will have an estimated 93,720 in 1960. It also reveals plans for a labor force survey this summer to provide detailed data on personnel available. A mass of additional information is included.

While Sioux City is first to have an audit accepted, hundreds of other areas are in process of compiling reports. Many of the nation's leading utilities and railroads are distributing forms and assisting communities in assembling information.



George Benedict, executive director of Tennessee's development program, (right) explains the new Registered Community Audit form to Lt. Governor William Baird, leader in the planning of a successful industrial district in Lebanon, Tennessee. Benedict is distributing audit forms to all Tennessee communities.

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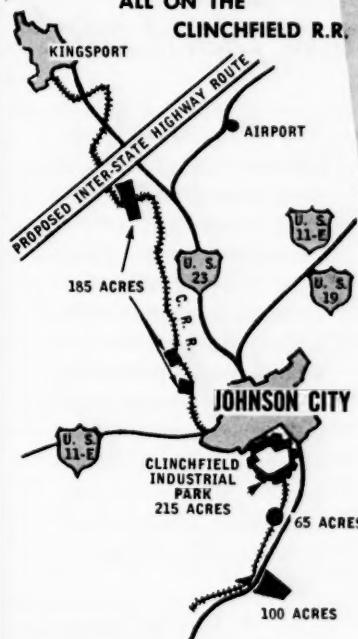
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SIRS: The article on Billboard Planning and Zoning written by Paul van Tassel Hedden and appearing in your January issue of **INDUSTRIAL DEVELOPMENT** is as fine a dissertation as I have ever seen on this subject.

The magazine and article were passed on to us by one of our friends at Ryan Aircraft Company here in San Diego and we are indebted to his alertness. All of us here at the San Diego Branch of Foster and Kleiser Division W. R. Grace & Co. have read Mr. Hedden's excellent interpretation of this most important phase of our business and all agree that if it is at all possible we should have additional copies of this article for all of our branches and to pass on to some of our planning friends in our City and County Planning Departments.

Therefore, we would appreciate it very much if you could supply us with 20 or 25 reprints of this article. . . .

We congratulate both Mr. Hedden and your magazine on this well written, informative and most timely story. . . .

DANIEL W. HALE, Manager
Public Relations Department
Foster and Kleiser Company
San Diego, California

► **Copies supplied.**

SIRS: We would greatly appreciate it if you would kindly give us permission to reproduce and distribute the Checklist of 700 plant location factors contained in the October, 1957 issue of **INDUSTRIAL DEVELOPMENT** magazine. We would, of course, give proper credit. Thank you for your consideration in this matter.

DANIEL W. CANNON
National Association of
Manufacturers
2 East 48th Street
New York, New York

► **Permission granted.**

SIRS: There is an article we'd like to read on zoning and billboards by Paul T. Van Hedden that ran in your January issue.

Would you be good enough to direct this letter to the proper person in your circulation department. What we'd like, if possible, is one copy of the issue with cost information on reprints.

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HOW INDUSTRY ORGANIZES FOR GROWTH PLANNING TODAY

PHASES OF PLANNING	Top Firms—Usually Very Large (Less than 50 in this group)	Middle Firms (Estimated 500)	Other Growth Firms (10,000-15,000)
CAPITAL BUDGET PROGRAMS Economic studies Evaluating company needs/- resources Timing of major expenditures	Treasurer or Comptroller Economist Tax expert Other fiscal specialists	One department or special group headed by man with title such as Director of Planning or Special Asst. to President or Mgr. of Fa- cilities Planning or any of a doz- en titles, at various locations on company organization chart.	All planning activities are a part- time responsibility of a top ex- ecutive, usually the president.
MARKET RESEARCH Distribution patterns Sales Territories New Products	Sales/Marketing Manager Market Research Mgr. Field Sales Director Research Director		
COMMUNITY STUDIES Business climate comparisons Intangible considerations	Public Relations Mgr. Community Specialist Labor Specialists Press Specialists		
PLANT ESTABLISHMENT Site Selection Construction supervision Real estate management	Engineering/Production Mgr. Legal Specialist Architect Engineer Site Specialist		
COORDINATION Overall decisions	Standing Committee or Special Project Team	Special Committee or Top Executive Officer	A top executive usually president

COMPANY ORGANIZATION

Is your firm properly organized to do an effective job of planning future growth? If not, you may be paying a heavy penalty in the cost of new facilities. For your guidance, here's a rundown on the facilities planning approach of firms of various sizes.

NEW YORK. "Ninety per cent of firms looking for new facilities pay a penalty from ten to fifteen per cent of final cost" due to lack of research and planning. That's the astonishing fact brought out here in the course of the American Management Association's recent plant location workshop.

Citing the waste in many company expansion programs, Dallas developer William Windsor said most firms pay a heavy penalty because of "a complete lack of understanding of the prerequisites of site selection and the fundamentals of real estate financing on the part of those to whom the company delegates the responsibility." Another factor, Windsor, continued, "is that firms maintain their secrecy concerning location to the point that competitive bidding is not invited."

This frank statement, and many like it, were a part of a rare give-and-take session arranged by AMA to promote sounder thinking in the realm of industrial expansion planning. The conference was noteworthy in that it brought together a group of top-level company managers and planners, to discuss techniques with a group of professional developers.

Company executives included such men as Robert D. Courtright, facilities planning specialist for IBM; Robert E. Johnson, Western Electric economist; Frank L. Willis, Treasurer, Eberhard Faber; H. B. Benedict, Kaiser aluminum official; L. L. Hamilton, Vice President, James G. Biddle Co.; D. D. Cooper, Director of Facilities Planning for Raytheon; James L. Cooney, manager of facilities planning for Corning Glass; Peter Quinn, Minneapolis Honeywell; and Peter Freedman, Vice President, B. G. S. Shoe Corporation.

In addition to Windsor who is developer of highly-successful Brook Holow Industrial District, representatives of development organizations included such men as William Davlin, Pennsylvania Secretary of Commerce; Samuel F. McGowan, area development

today differs according to the size of the firm involved. Development at DuPont is a far cry from development in the typical manufacturing firm. Yet, basic principles must be similar.

As shown by the chart, there are a relative handful (probably less than 50) companies which have many different specialists in different departments involved in planning future growth. For example, these large firms conduct continuing studies of capital budget programs. These are backed up by detailed studies of company needs, company resources, and such related factors as timing and phasing. These investigations may fall generally into the company treasurer's office. Various aspects of planning projects will be studied by tax experts and other fiscal specialists.

Similarly, the very large firm has a group working in the area of markets, studying such matters as sales territories, distribution patterns, and product introduction. Another group, looking into such areas as community relations, might bring in personnel from the public relations department, the labor relations department, and similar units.

Finally, the huge organizations have

some type of team approach to new projects. In some firms there is a standing committee which coordinates all planning, while in others a special team is appointed to handle each new project.

Obviously, the large firms are in a better position to do a good planning job, from the viewpoint of personnel. They can call in a great variety of specialists to attack any given problem. They are the "top scientists" in the new field of scientific planning of industrial expansion.

But this does not mean that smaller firms can't do an effective planning job. So long as top management recognizes the need, a suitable organization can be arranged to handle planning in any size firm.

As the chart indicates, there is a group of middle-sized firms which generally plans via a single department or specially-appointed group. There are an estimated 400 to 500 companies in this category (based on subscriber titles noted by ID's circulation department). Titles of these department heads vary widely, but there is a common denominator—recognition of the need for planned development and delegation of this function to a specific executive of

FOR EXPANSION PLANNING

director for Northern States Power; and Rodney Q. Selby, First National Bank, St. Paul.

Conferees lost no time in agreeing on two points—first, that expansion planning is a matter of prime importance to any growing firm, and, second, that not many firms devote enough attention to planning. To every firm which has a record of growth, or expects to grow, the immediate question is "Are you properly organized to plan your expansion?"

The opening session of the AMA workshop was devoted to a discussion of the present state of the art of industrial expansion planning. The discussion revolved around the accompanying chart presented by ID's editor in the opening statement.

The approach to expansion planning

complete internal groups for handling the actual establishment of a new plant. Company personnel are available to conduct site surveys, to supervise construction, and to manage properties after they are acquired. Specialists include engineers, architects, attorneys, and, in some cases, real estate men.

ID has described many of these groups in previous issues. One of the common denominators is the *continuity* of planning effort in the large organizations. One or more large new plants are always in the planning stage. DuPont averages several new plants per year.

Another common denominator among the firms in the largest category is the requirement for suitable coordination. With so many different departments involved, it is essential to have

the firm.

Coordination of the planning functions is obviously not as great a problem in these middle firms, since most matters pass across the desk of the one man in charge. However, there may be a policy committee to which the planning official reports, or he may report to a higher official of the firm.

Of course, all major planning matters eventually find their way to the desk of the company president. In fact, one recent AMA publication estimated that the typical company president spends more than half of his time planning future growth, although he may not realize this.

In the smaller firms—and this includes about 99 per cent of all manufacturers, growth planning today still is just a part-time function of the top



Arch C. Scurlock (left) and Arthur W. Sloan, cofounders of Atlantic Research Corporation, Alexandria, Virginia, are the principals in a firm that is engaged in research for growth. Its own operations have grown from a two-man beginning in 1949 to past the \$5 million mark.



Dr. Irving Roberts is director of planning for Reynolds Metals Company, Richmond. He has had 20 papers published in engineering and scientific journals and has taken out six patents during a career in engineering which has extended over more than two decades. Dr. Roberts is a graduate of the City College of New York, and he received his M.A. and Ph.D. degrees from Columbia University. A licensed engineer in both New York and Pennsylvania, he has an impressive background for directing a company program.

... some planners in industry ...

A new member of I.D.'s Editorial Advisory Board, D. D. Cooper is director of facilities planning and capital budgets for Raytheon Manufacturing Company, Waltham, Massachusetts. He has responsibility at the corporate level for long-range and short-range facilities planning and the expenditure of capital funds for maximum return on the investment. A graduate of Youngstown College in Ohio, Mr. Cooper previously has held executive positions with Northeastern Steel, Ford Motor, Portsmouth Steel and Republic Steel.



executive, usually the president. Of these, a small percentage are well informed and the balance represent all degrees of ignorance of planning techniques.

Small wonder, then, that Windsor could say, based on his considerable experience, that ninety per cent of site-seeking firms are paying a price penalty of ten per cent or more for inadequate planning!

It is clear that better planning of expansion represents one of the great opportunities on the business scene today. Where else can you gain a ten per cent cost advantage over your competitor? The alert managers of firms large and small can use systematic expansion planning as the avenue toward improved competitive position.

The first thing to do is to get organized. Depending on your size and rate of growth, set up a suitable unit to chart your future course. If yours is a small firm, designate one key official as your development specialist. As you grow, give him additional help, and soon you'll have a departmental set-up.

Titles are a subject of debate at the moment. In some firms the man who handles growth planning is a special

assistant to the president. In another, he is Director of Development. Some firms have a Director of Facilities; others a Real Estate Manager. We've identified at least two dozen titles which have been given to individuals or departments which in some way get into the company planning and development program.

The title we prefer is Director of Industrial Development. We believe this title has greatest identification and will spread fastest. To thousands of people in the field, it immediately labels the activity as one involving planning, facility establishment, and future industrial growth.

In the smallest firms, we suggest industrial development as a collateral duty assigned to someone having a different title. In middle firms, the Director of Industrial Development should be a department head. And in the larger firms, this man should be Vice President in charge of Industrial Development.

Use of this title in industry would facilitate recognition of this field of specialization and would thus capitalize on the vast amount of work which has been done by community groups to advance the development profession.

Several hundred top-flight industrial development professionals are employed by railroads, utilities, government agencies, and local area promotion groups. Such men have experience which could be invaluable to a manufacturing firm.

Briefly, the industrial development specialist must be familiar with industry expansion trends, with a wide variety of plant location factors, and with an increasing number of community relations factors. Academic training in engineering or economic geography is highly desirable. These questions of organization, personnel selection, and operating technique deserve much more complete discussion and will be covered in detail in future issues of ID.

Meanwhile, we can best prove the importance of this trend in company expansion planning by noting the steps being taken by dozens of leading firms. In recent months, one blue-chip firm after another has announced intensification of development efforts.

Reynolds Metals Company for example, has recently organized a planning program which is guided by a planning committee. This committee consists of representatives of the fol-

EXPANSION PLANNING

lowing departments: sales, treasurer, controller, economics and general management. The planning department is an operating arm of the planning committee.

Functions of the planning department at Reynolds are:

A. Coordination of activities of the appropriate departments of the company for long range planning of the company's growth. These activities include:

- (1) Forecasts of markets and sales, and establishment of long term sales objectives.
- (2) Planning of production facilities to meet these market requirements.
- (3) Planning for reserves of raw materials, fuels, etc.
- (4) Financial planning incorporating study of new capital requirements and continuing examination of financial requirements for the company's growth as forecast.
- (5) Periodic revision of functions (1), (2), (3) and (4) to reflect changing economic trends and changing technology.

B. Distribution of information to the manufacturing divisions of the company, and:

- (1) Discussion with each manufacturing division the basis of the plan and its significance with regard to its plant facilities and products.
- (2) Day-to-day work with each manufacturing division to assist in solution of problems, such as:
 - (a) Optimum plant sites.
 - (b) Power costs or fuel costs.
 - (c) Economics of choice of different types of equipment.

C. Review and recommendation on possible new activities for the company, such as:

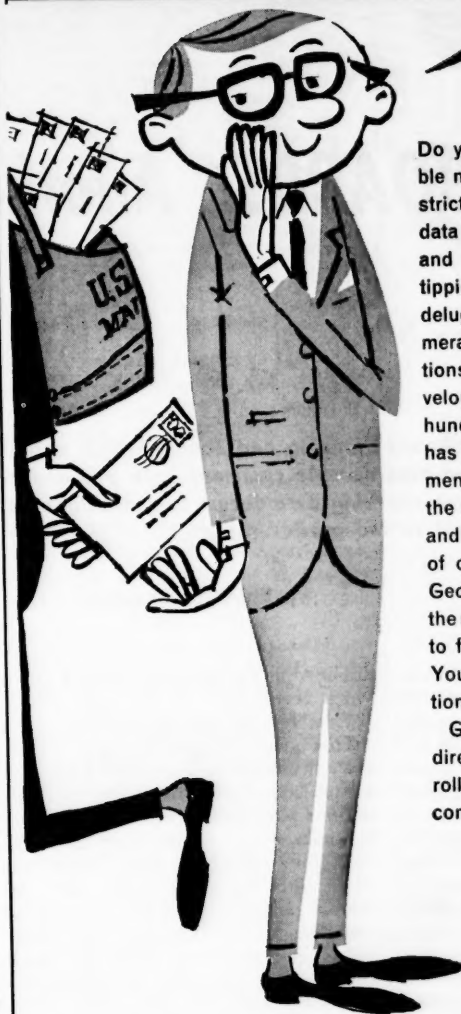
- (1) Manufacture of new products; planning to be influenced by market and profitability studies.
- (2) Production of additional raw materials for aluminum production, with analysis from technical viewpoint and from viewpoint of return on investment.
- (3) Acquisition of other manufacturing operations.
- (4) Establishment of new research projects.

Recently named as Director of Planning for Reynolds is Dr. Irving Roberts, an experienced researcher and chemical scientist.

A number of firms have industrial development programs that are very similar in nature to those of area promotion organizations. For many years Sears, Roebuck has conducted a program to develop sources of supply in the market areas it serves. This work has included feasibility studies which have resulted in many new plants.

Similarly, Kaiser Steel has had an industrial development department in being for a number of years with the objective of attracting metal fabricating industries to its area. Other firms have operated such departments to attract customers to areas adjacent to their plants.

HOW TO GET GEORGIA PLANT-SITE INFO ON THE Q.T.



Do you want to investigate possible new-plant locations in Georgia strictly on the q. t.? Want complete data on land, labor, markets, taxes and community attitudes without tipping your hand and bringing a deluge of solicitations from innumerable agencies and organizations? Georgia Power industrial development engineers have served hundreds of firms whose anonymity has been carefully protected. These men know their business, they know the state and they know its people, and they have the full cooperation of community leaders. And since Georgia Power lines virtually cover the state, they have no selfish reason to favor one locality over another. You can be sure of accurate information uncolored by special interests.

Georgia Power men are yours to direct as if they were on your payroll. They are here to serve you — confidentially.



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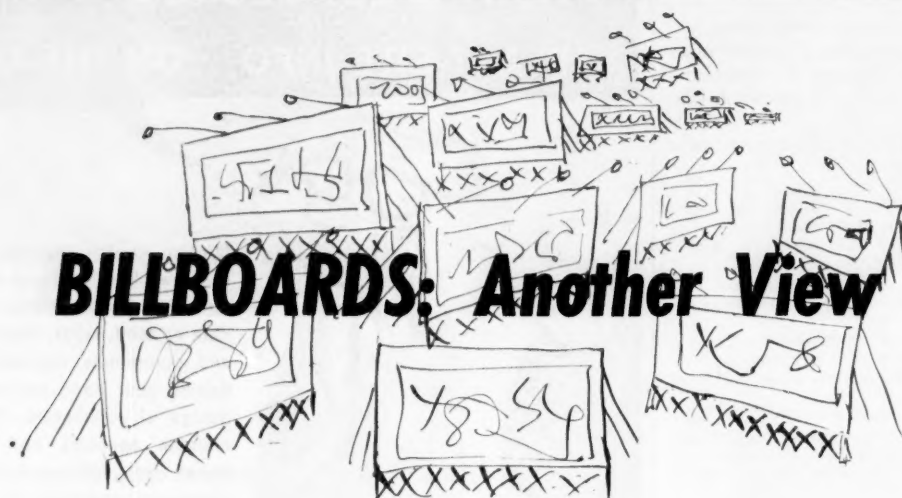
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Write, Wire or Phone
E. A. Yates, Jr., Manager

Industrial Development Division

GEORGIA POWER COMPANY

Box 1719-G, Atlanta 1, Georgia Phone: JA 2-6121



BILLBOARDS: Another View

The article on Billboard Planning and Zoning which appeared in the January issue of I.D. has inspired considerable comment both pro and con. In order to give both sides of the picture—serving as a forum for intelligent discussion—I.D. is publishing here a rebuttal to the earlier report . . .

By Eldridge Lovelace

THE article entitled, "Billboard Planning and Zoning" by Paul van Tassel Hedden that appeared in the January 1959 issue of "Industrial Development" magazine appears to represent, in a large degree, billboard planning and zoning principles as they are favored by the billboard interests. The principles recommended by Mr. Hedden depart quite far from current practices in the regulation and control of outdoor advertising as recommended by other professional city planners. Those who read the first article should have an opportunity to learn that there are other points of view on billboard planning and zoning.

One of the other points of view is best presented in seven principles which may be summarized as follows:

1. Outdoor Advertising is Ugly and Makes Our Nation and Its Communities an Aesthetic Mess

Beauty, as the poet said, is in the eye of the beholder and people differ over matters of aesthetics. There are, however, standards of good taste that are generally accepted by the population as a whole—and more heartily endorsed by persons with training and experience in matters of appearance and aesthetics. Most people believe outdoor advertising to be ugly—see the Trendex Poll of

Public Opinion and other similar polls which reveal an overwhelming public distaste for outdoor advertising.

This principle may be more effectively demonstrated, however, by a few comparisons. Compare an area without outdoor advertising such as Hawaii or Bermuda, or one of our more carefully developed suburban areas, with an urban or rural scene where there is outdoor advertising. Compare a trip over the Merrett Parkway, the Blue Ridge Parkway, or one of the turnpikes where outdoor advertising is completely eliminated, with a comparable drive over such a route as U. S. 1 between Washington and New York, U. S. 66 southwest of St. Louis or U. S. 77 (a new route) just south of Oklahoma City. Which community or which highway is the more attractive—the one with, or the one without outdoor advertising? There can be only one answer; outdoor advertising makes an area ugly.

There is universal agreement that the community without outdoor advertising and the highways without outdoor advertising are much more pleasant and much more attractive than the highways or the communities that permit it. The adjectives, "attractive" and "pleasant" may seem to be weak or meaningless.

This is not so, however. The better appearing community is always the more valuable community; higher property values go hand in hand with a pleasing appearance and an attractive environment.

A further demonstration of this first principle is found in the modern planned shopping center. Billboards are excluded from these centers because the owners and operators of such centers don't want them; they detract from the planned center's value. One of the earliest shopping centers—the Country Club Plaza in Kansas City, Missouri has followed a consistent policy of placing severe restrictions on outdoor advertising. Billboards, for example, are not allowed. This is a typical example of the practices proved by experience in successful commercial centers.

Deed restrictions for the control of the use of property within planned industrial districts generally restricts the use of outdoor advertising. The United States Chamber of Commerce's publication "Organized Industrial Districts"¹ says, "The effect of uncontrolled use of

¹ Organized Industrial Districts, a tool for Community Development, United States Department of Commerce, Office of Technical Services.

billboards and other advertisements on an otherwise attractive district is obvious." This publication quotes with approval the following restrictions for the industrial district of Wichita:

"No billboards or advertising signs other than those identifying the name, business and products of the person or firm occupying the premises shall be permitted, except that a sign not exceeding ten (10) feet by twenty (20) feet in size offering the premises for sale or lease may be permitted."

The conclusion is unescapable no matter how the problem is approached: presence of outdoor advertising makes ugly the area in which it is located.

2. Control and Regulation of Outdoor Advertising Based on Aesthetic Considerations Alone is Logical, Appropriate and has been Approved by the Courts

In recent years our courts have taken a much broader view of the police power. Regulations based upon aesthetic considerations alone are being approved. The United States Supreme Court in the case of *Berman v. Parker*²

² 348 U.S. 26, stated as follows:

"The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, esthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled. If those who govern the District of Columbia decide that the Nation's Capital should be beautiful as well as sanitary, there is nothing in the Fifth Amendment that stands in the way."

The Supreme Court of Florida in the case of *International Co. v. The City of Miami Beach*³ upheld regulations of

³ 90 So. 2nd 906, the City of Miami Beach that control outdoor advertising, stating as follows:

"We have upheld zoning generally in the Miami Beach area, where the principal consideration was aesthetics on the showing that because of the very nature of the place, restrictions that had no relevancy to health, safety and morals, could be imposed because the general welfare of the community depended upon preserving its beauty."

Probably the most significant case in the control and regulation of outdoor advertising is the Massachusetts case of 1935.⁴ In this case the court quoted

⁴ *General Outdoor Advertising Co. v. Department of Public Works*, (1935), 289 Mass. 149; 193 N.E. 799.

with approval a statement of the master as follows:

"I . . . find that billboards, signs and advertising devices when located at or

near public parks and reservations tend to detract from the surroundings and enjoyment of such places, and thereby, in some measure, to affect the public health and public welfare, through lessening, by their presence and persistent intrusion upon observers, the beneficial influence of mental and physical rest, relaxation and enjoyment which are intended to be, and are afforded by such places. I find that billboards, signs and advertising devices when erected in sections or locations chiefly of historic interest or possessing natural beauty of landscape, pleasant or agreeable situation, prospect, view and attractive or picturesque surroundings or character, are inharmonious with and disfigure the same, and affect injuriously the benefits to be derived therefrom, and the enjoyment of the public therein, as also the economic value thereof to the commonwealth and its citizens."

If outdoor advertising adversely affects the appearance of Miami Beach or the appearance of a Massachusetts park it would adversely affect anything and everything that is looked at to some extent. While appearance may be more important to the economy of a resort area such as Miami Beach, or to the use and enjoyment of a park, than to the use and enjoyment of another section of an average city, this is, after all, only a matter of degree. All of America, originally, was beautiful; all of it still may have scenic value. The environment of all parts of all communities is important. The appearance of almost any area would be improved by the removal of outdoor advertising. With the improvement of appearance there would be a consequent enhancement of value.

Appearance is a major characteristic of environment; is as important as safety or sanitation, and may be regulated in the public interest.

3. Outdoor Advertising is a Traffic Hazard

The Massachusetts case cited above investigated in great detail the relationship between outdoor advertising and safety on the highways.

The master on this case made the following finding:

"Billboards are designed to compel attention. The advertising matter displayed upon them in words, pictures or devices, is conspicuous, obtrusive and ostentatious, being designed to intrude forcefully and persistently upon the observation and attention of all who come within the range of clear normal vision."

The court went on to say:

"Advertising devices on private land manifestly are designed to attract the attention of motorists. The opinion of the executive head of that department that billboards have a distractive effect upon the drivers of automobiles and that they constitute traffic hazards except in busi-

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WRITE ON YOUR LETTERHEAD FOR OUR "ORANGE COUNTY FACTFILE" & DETAILS ON OUR "FIVE POINT PACKAGE PLAN"

LEARN WHY such companies as Ford, General Motors, Chrysler, Hughes Aircraft, Northrop, SPS, Sylvania and others choose ORANGE COUNTY as the place in which they wish to live, work and play.

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INDUSTRIAL & COMMERCIAL PROPERTIES
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ness sections is entitled to weight."

The Massachusetts case was decided in 1935. Traffic is far heavier today; automotive travel is at much higher speeds and requires from the driver a much greater degree of concentration. Obviously, any distraction of a driver today is far more dangerous than in 1935.

Several surveys have been made by various highway departments in an endeavor to find a statistical correlation between traffic accidents and billboards. Studies made in Minnesota and Iowa found such a correlation. A Michigan study did not. However, this is a relationship not well suited to conclusive statistical analysis. Outdoor advertising is most common where traffic is heaviest. It is in these locations that there are the greatest number of accidents. It is almost impossible to isolate the exact causes of the accidents or to blame an individual accident upon a billboard alone. It is quite obvious, however, that a driver is not concentrating on the highway while he is reading a billboard. This inattention is dangerous. (If the occupant of the car is driving safely and does not see the billboard then much of the reason for the billboard is removed because the drivers are more than one-half of the total occupants of the automobiles.)

Every driver is familiar with the severe problems created by the multiplicity of signs near intersections. It is very difficult to single out the highway direction signs from the advertising signs in a strange city by day—and virtually impossible at night. Stop-and-

go lights are difficult to find because of all of the neon lights in front of them and behind them. There can be no argument over the conclusion that lack of attention to basic traffic control signs is very dangerous.

A few of the modern express highways have been found to induce a certain dangerous hypnosis on the driver. This is caused by usually monotonous cross sections and alignment. The billboard interests have eagerly pounced upon this situation and have widely touted the billboard as an effective means of overcoming this monotony. (There has been no evidence, however, of their locating billboards at sites chosen just to eliminate this hypnotic condition.) However, there are many other means—and better means—including landscaping of the highways, painting bridges in colors, better highway design, etc. to eliminate this hypnotic effect. It can be overcome without use of the billboard.

4. Outdoor Advertising Need Not be Allowed in all Business and Industrial Districts

Mr. Hedden in his article spent much time emphasizing one of the major sophistries of the advertising interests. Most simply expressed, it is to the effect that outdoor advertising is a typical, legitimate "public-spirited" business and, as such, by right, should be permitted in all commercial and industrial districts under our zoning ordinances.

The false assumption on which this sophistry is based is that outdoor advertising is a typical business. This was effectively exploded in the 1935 Massa-

chusetts billboard case:

"The classification of billboards and other outdoor devices for advertising, when carried on as a business, to be treated separately and apart from other business plainly is warranted."

Any business is "legitimate" so long as the conduct of the business does not involve an illegal activity on the part of its proprietor. This does not mean that all businesses have to be allowed in a commercial area. A junk or salvage yard is a "legitimate business"; it is usually relegated to a heavy industrial district. Nor is it at all necessary for any community to provide for all possible human uses of the land within its boundaries by its zoning ordinance. A community may rightfully exclude from its borders uses that would be entirely inappropriate to the community, dangerous to its inhabitants, or uses that would place it at a disadvantage in economic competition with other communities. Certainly, if a community deemed that outdoor advertising adversely affected its entire character, appearance and value there is nothing in the law that would stop the community from excluding it from its boundaries.

Virtually all outdoor advertising has been completely excluded from the Hawaiian Islands. The results of this practice are good evidence of the practicability as well as the desirability of such an exclusion.

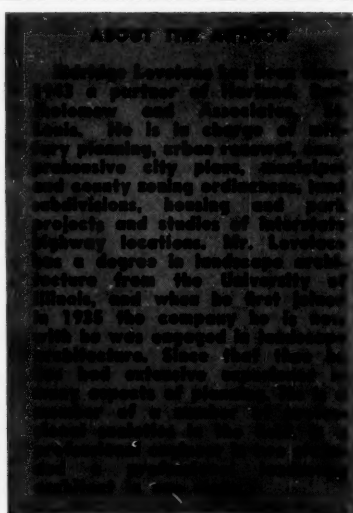
5. There is no Compelling Economic Reason for Outdoor Advertising

The major purpose of outdoor advertising is to persuade people to do something or to buy something that results in economic benefit to the organization purchasing the advertising. It is quite doubtful that this basic purpose is accomplished to an extent commensurate to the cost of the advertising. An article by Carl Goldschmidt in a recent issue of the "Journal of the American Institute of Planners"⁵ de-

⁵ Journal of American Institute of Planners, Vol. 24 (1958), No. 3.

scribed a survey made by the Virginia Department of Highways:

"At the request of three garden clubs in Albemarle County (Charlottesville), interview stations were set up at five different locations on U. S. 29 and U. S. 250 outside Charlottesville. Motorists were stopped and interviewed during five days of one week in August and were asked their opinions regarding billboards along highways. The sample of some 6000 was quite evenly divided among residents of Charlottesville and Albemarle County, the rest of Virginia, and



elsewhere.

"Only 16 percent replied affirmatively to the question of whether billboards along the highway influence their purchasing, and only half of these were able to say in what ways they thought they were influenced. Furthermore, of the local people only 11 percent reported that they were influenced, of the rest-of-state people 17 percent, of the out-of-state 19 percent. Since the majority of billboard advertising, even of products available nationally, is done by merchants in their local areas, the survey analysis concluded that precisely those people the advertiser most wished to reach, those who do most of their spending locally, were apparently least influenced by it. In spite of the low total number of people doing some purchasing consequent to billboard stimulus, this distribution is unexpected and significant. As might be expected from this, those influenced by billboards responded more often to motel signs and other signs about traveling accommodations than to any other determinable stimulus. Even so, these constituted only 5 percent of the sample.

"General conclusions from this survey might be that while most drivers don't dislike billboards, most of them don't consciously react as the advertisers wish. Hence, even though perhaps they are not objectionable, on the basis of this one might say that they serve little purpose."

The advertising interests themselves are unable to produce facts demonstrating any substantial economic value for outdoor advertising (see the "Hearings before Subcommittee, etc., 85th Congress on S. 963" and particularly pages 136 to 141).

A few of the major corporations, such as Union Oil of California, have discarded billboard advertising. Other companies, no doubt, will follow as they find that money paid for such advertising is of doubtful value. This is particularly evident when it is realized that there is a part of the population to whom the billboard is so distasteful as to persuade them *not* to buy the product advertised.

The billboard industry frequently cites figures such as the number of people they employ and the fact that a quarter of a million people receive incomes from the use of their property for outdoor advertising. Exactly the same case could have been made for the buggy manufacturer and the very flourishing saddle industry we had before the advent of the automobile. Complete disappearance of this industry, which is not possible or probable for many years, and which would take place gradually in any event, is not likely to have any noticeable effect on the nation's economy.

Nor is it at all reasonable to say that just because one business might be

eliminated all legitimate businesses are threatened. The outdoor advertising business is obviously different from, say, the shoe business or the automobile business, from a bakery, a laundry or any other business that contributes to filling a basic human need. Advertising may be needed for mass distribution of products. Other media are available, however. To say that stringent regulation or even elimination of outdoor advertising is a threat to all business is not just untrue, it is outright silly!

6. The Modern Zoning Ordinance Should Include Stringent Controls of Outdoor Advertising

Based upon its adverse effect upon community appearance and traffic safety the modern zoning ordinance includes stringent control of outdoor advertising. Generally, this control should be as follows:

(a) Except for bulletin boards used in conjunction with churches and institutions and temporary signs for the sale or lease of property, all outdoor advertising should be excluded from all residential districts. The billboard industry generally agrees to this; however, they do not agree to the corollary to it which is that existing outdoor advertising within the residential areas should be removed within a period two to five years.⁶

⁶ See Grant et al. v. Mayor and City Council of Baltimore et al., Court of Appeals of Maryland, Feb. 14, 1957, 129 A. 2d 363.

(b) Outdoor advertising should not be permitted to locate promiscuously along highways in rural areas. For the convenience of the traveling public, outdoor advertising is needed to point out the presence and location of garages, filling stations, hotels, motels and restaurants. Preferably such signs should be grouped in a special area adjacent to a highway turnout where the car can be pulled off the highway and the signs examined at leisure. (The combination of such an arrangement with direct-line telephones would be far more effective than the customary hit-or-miss arrangements.) Pending such developments, however, outdoor advertising that is restricted to such subjects should be permitted within the commercially zoned areas along rural highways, together with signs advertising products or services offered on the premises. The major portion of rural highways, however—at least 90 to 95 percent of their mileage—should be protected against all outdoor advertising.

(c) Within the urban commercial

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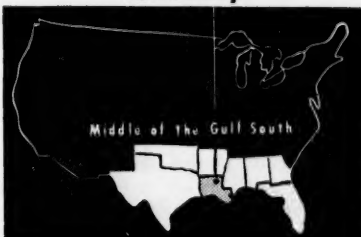
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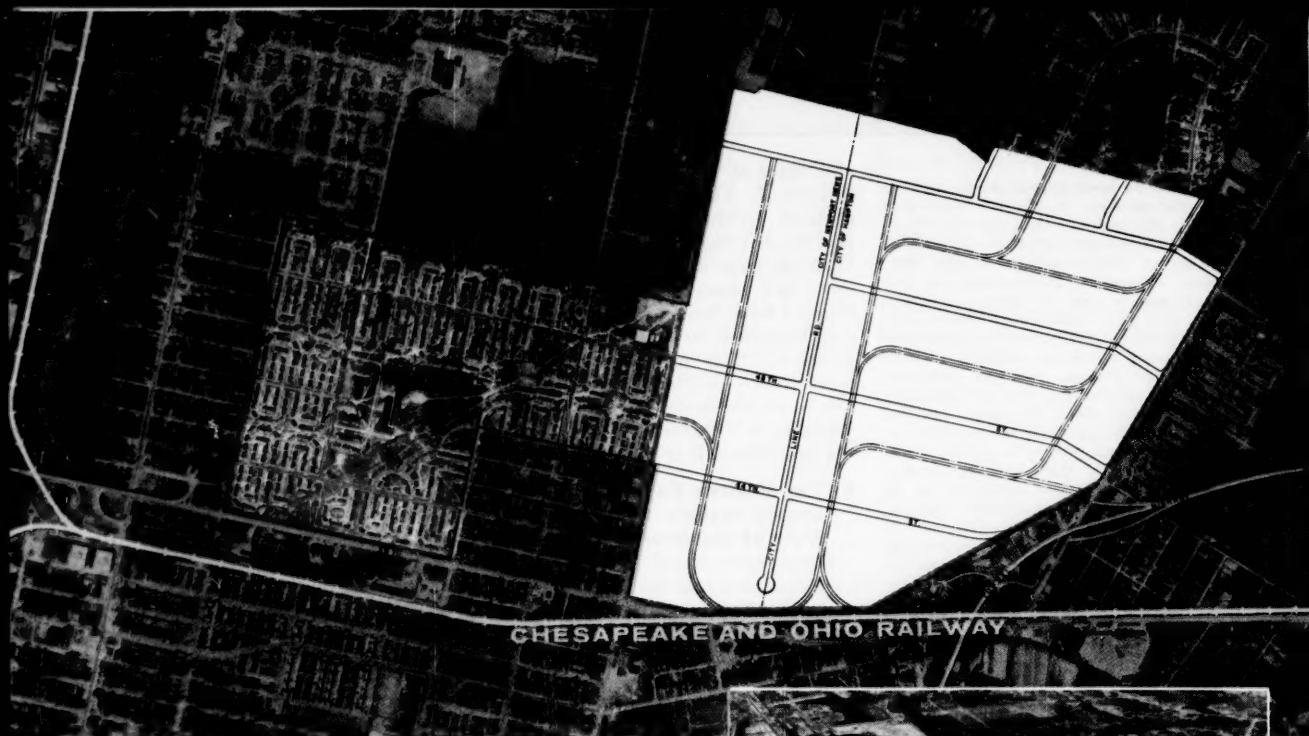


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There is an ample supply of both skilled and unskilled labor. The two adjoining cities of Newport News and Hampton have a combined population of 207,774. The area has a long tradition of good labor relations.

We will be glad to send you full information about the many advantages that make this a most attractive location for a great variety of industries.

Address: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, West Virginia — Telephone: JAcson 3-8573.



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districts serving the residential areas with such uses as groceries, drug stores, barber shops and the like, outdoor advertising should be restricted in content to that dealing with the services or products sold on the premises.⁷ With very limited exceptions advertising in such districts should be restricted to buildings; and should not extend above or beyond the building itself. Also, there should be a limitation as to the total square footage of advertising material.

(d) In most of our cities at least for some time to come, it is probable that virtually all types of outdoor advertising will have to be allowed within the commercial areas along the highways and commercial areas in and adjacent to the central business district. This is because there is already so much material of this type installed in such areas. Here again, control over the total square footage of signs and keeping signs a reasonable distance from residential zones will be beneficial not only to the general public but to the users of outdoor advertising as well. Today, in so many of our strip-type commercial areas there is such a multiplicity of advertising material that the traveler does not notice—and sometimes cannot even find—any one individual sign.

(e) It is also probable that for some time to come outdoor advertising should be allowed in our older and more mixed-up industrial districts in cities. In our newer industrial areas, however, and in those of a better character, advertising should be limited to identification of the enterprises occupying the premises. There should be stringent control in regard to setback and total area.

The above are, admittedly, compromise regulations. Much greater control is possible and probably desirable. However, this is a matter in which progress must necessarily be made step-by-step. The combination of public distaste for the ugliness of our cities and the progressive point of view of leadership in major corporations in response to this public reaction is likely to bring about a gradual elimination of the major portion of outdoor advertising over the next two to three decades. We will not have to depend upon public regulation alone.

7. A Community may be Judged

⁷ See Landau Advertising Co., Inc. v. Zoning Board of Adjustment, Supreme Court of Pennsylvania, Jan. 17, 1957, 128 A. 2d 559.

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Hundreds of fine CP&L communities offer local capital for sound industrial building investment. Business-minded citizens will help custom-plan a plant to your specifications and financing to suit your needs. Write for information about this flexible Packaged Plant Financing NOW!

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Are you having difficulty getting land zoned for expansion? Does your community need to be informed of the importance of setting aside adequate area for industrial growth?

If you need to do a selling job in the realm of industrial planning and zoning, you'll be interested in the new color sound film being produced by Industrial Sound Films, Inc., with the technical aid of the staff of INDUSTRIAL DEVELOPMENT. This new motion picture will tell why industry is needed for healthy community growth, how modern industry raises, not lowers, property values, and how fine residential and industrial areas can be good neighbors. It tells about planned industrial parks, and the trend toward performance standards in zoning ordinances.

The new film will be a companion piece to GOLD MINE ON MAIN STREET, already distributed throughout the nation to tell the story of industrial development at the local level. For full information on either film, address:

INDUSTRIAL SOUND FILMS, INC.

Conway Building, North Atlanta 19, Ga.

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Success growth is already an established tradition in four-year-old Brook Hollow.

A food manufacturing firm has completed its second major expansion in Brook Hollow, more than doubling the size of its plant.

A chemical firm tripled the size of original Brook Hollow facilities in two expansions. Three firms recently doubled the size of their Brook Hollow facilities.

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We do not have EVERYTHING that ALL industry wants, but we have attracted some of the leaders. Maybe we have what **YOU** want



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gives you up - to - the - minute data about southern industrial progress.

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THE SOUTHERN LETTER

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no obligation . . .

**2592 Apple Valley Road
North Atlanta 19, Ga.**

BILLBOARDS

by the Manner in Which it Controls Outdoor Advertising

It is necessary to agree with the last statement in Mr. Hedden's article which was as follows:

"Perhaps it would be a good criterion to judge a community attitude toward legitimate business by checking the reasonableness of its controls on outdoor advertising."

Industry is becoming more and more aware of the necessity for locating its operations in communities in which its employees may find a good environment in which to live and rear children. The appearance of any community is a major contributor to such an environment. That community will be best for industry which is aware of the need to develop and maintain good living conditions. The extent to which community leaders are aware of this problem is well indicated by the stringency of the controls they impose on outdoor advertising. The more stringent this control the more aware they are of the need to protect and enhance community amenities.

Thus an industry looking for a new site would do well to look into the stringency of the community's outdoor advertising regulations. Stringent regulations not only indicate a concern for living conditions but an ability, on the part of municipal government, to protect the majority interest and not knuckle under to a vociferous and self-seeking minority. Where a city has compromised its position in regard to outdoor advertising it will compromise its position similarly in response to outcries from other minorities. In such a community there will be constant difficulties for commerce and industry. Stringent controls indicate a desire to create a good environment for all business and industry.

New England Has Room For Growth

BOSTON. New England still has good space for industry and is continuing to seek new developments.

This fact was made clear in the results of a study conducted by the New England Council. That agency learned that at least 113 industrial parks or districts already have been established within the six states, and some 18 others are in the proposal stage.

States in the New England Council group are Maine, Massachusetts, Rhode Island, Connecticut, New Hampshire and Vermont.

If you're looking for an unlimited supply of water, a network of transportation facilities virtually unsurpassed, and a location close to the geographic and population centers of the nation, then put the St. Louis area down for very serious consideration in your site selection and expansion plans.

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AN AREA SURVEY by **Industrial Development**
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THE NATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION



The big buildings of downtown St. Louis make an impressive skyline in this aerial view. The Riverfront parking lot at left will be the site of the new Jefferson Memorial National Park which will have a huge stainless steel arch marking the Gateway to the West.

The St. Louis Key to Growth:

WATER, TRANSPOR

BY JOUETT DAVENPORT, JR.

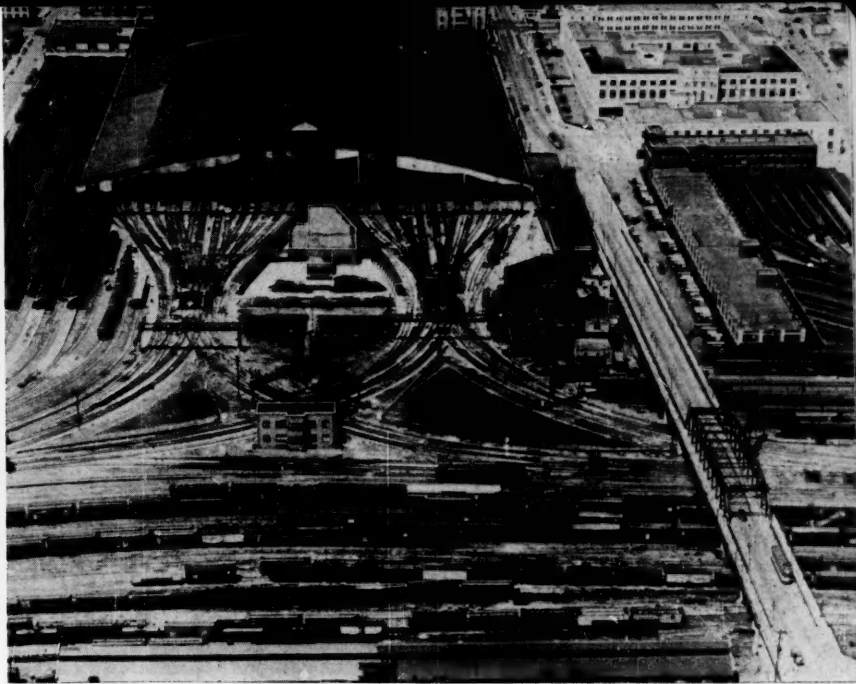
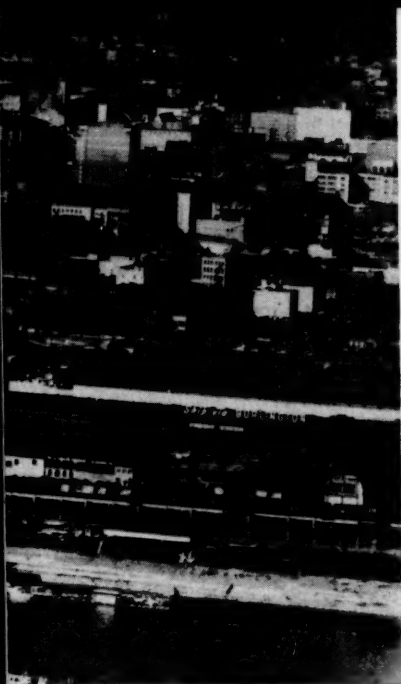
Your look at St. Louis will show you not only an area of copious natural and locational attractions but also a metropolis that has taken on a new appearance based upon a dynamic program of redevelopment that augurs well for those who plan a future here. . . .

ST. LOUIS. There's progress afoot—action with a fire built under it—in this historic home of the “St. Louis Blues.”

If you come to the city by air, the first sign you will see of the big change is the spectacular administration building at Lambert-St. Louis Field. Of sweeping parabolic design, with huge areas of glass, the structure is one of the most modern such terminals in the world.

The field, the longest runway of which extends for 10,015 feet, is a far cry from what it was in the days when Charles A. Lindbergh first went aloft from here in his famous little “Spirit of St. Louis.”

On arriving in the city itself, you see more evidence of dynamic growth—in new highways, bridges, docks, parks,



The position occupied by St. Louis as the nation's second largest railroad center is exemplified in this big switching yard for the 18 trunk line railroads which enter the Union Station. The area also is served by one short line and five terminal railroads.

R TATION AND LOCATION

schools, libraries, and tremendous slum clearance projects.

All this is in great contrast to the St. Louis of just a few years ago. Like many of the nation's older communities, the city had become relaxed, content with the status quo, and—yes—even smug. While the Mississippi River flowed lazily by, St. Louis became dirty, buildings fell into decay, and slums hatched and spread under a pall of smoke from old industries which made no effort at smoke abatement. And, inevitably, growth began grinding to a halt.

Fortunately, however, there were those among the citizenry who were farsighted enough to see that drastic remedial action was needed. Through consistent, organized effort, the re-awakening was sparked, and in 1955

the people passed three huge bond issues for progress. These included \$110,639,000 for general improvements in the city, \$16,395,000 for expansion of the city's public school system, and \$39,712,000 for public works in St. Louis County.

Although, certainly, St. Louis still has many of the problems facing all urban areas, the impetus for continued re-

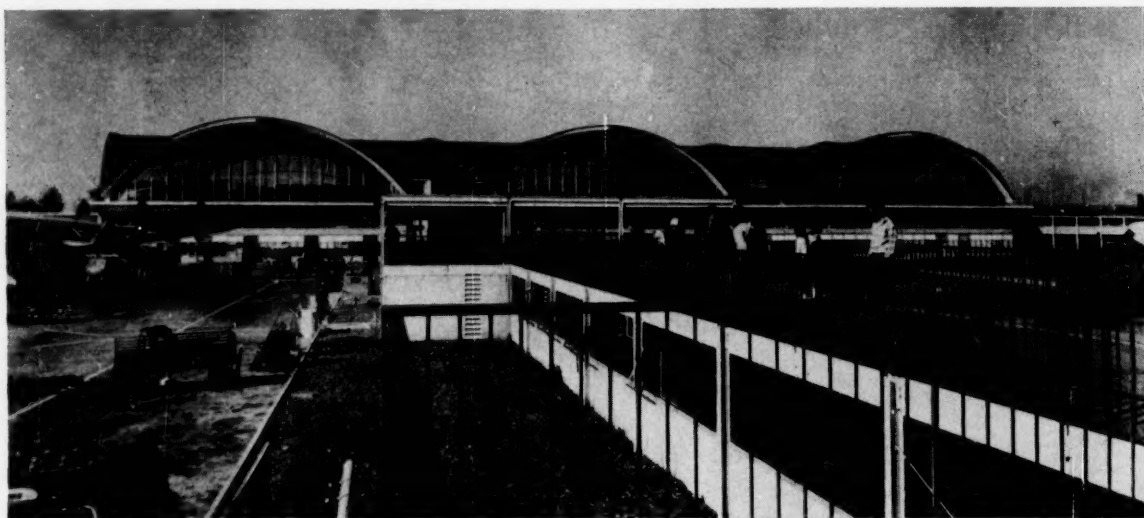
habilitation is roaring along. Thus, in addition to what already had been done, new developments in progress and on the drawing boards will make the city's transformation progressively more evident in the near-term future.

What does this mean to you, the site seeker? It means, among other things, that there exists in this area the opportunity of being part of and benefiting from a powerful renaissance. Markets are expanding, carefully planned and controlled industrial parks are being built, transportation facilities are being extended and improved vastly, utilities are enlarging their services, all against a backdrop of new building projects, cleanups and repairs.

Behind this, of course, is the deep-rooted culture that has always been and continues to be an integral part of

I.D. AREA SERIES

The accompanying editorial survey of plant location factors in the St. Louis Metropolitan area was conducted under auspices of the Union Electric Company. Reprints are available from J. Eugene Johanson, manager of the Industrial Department, Union Electric Company, 315 North Twelfth Street, St. Louis 1, Missouri.



The Lambert St. Louis Municipal Air Terminal, with its sweeping parabolic arches, is one of the most modern such terminals in the nation. The \$7 million structure serves as the focal point for air traffic in this area. The longest runway on the field extends for 10,015 feet. St. Louis also is an international port of entry for air freight.

the city's activities.

Let's take a look, then, in further detail at the various factors which make the City of St. Louis and its metropolitan area a place which presents an impressive industrial potential.

Included in the standard metropolitan area are the City of St. Louis, the Missouri counties of St. Louis, Jefferson and St. Charles, and the Illinois counties of Madison and St. Clair. Expansion of the area to include Jefferson was effective in December, 1958, by action of the Office of Statistical Stand-

ards, U. S. Bureau of the Budget.

Unlimited Water Supply

Some four miles north of the City of St. Louis is the confluence of the Missouri and Mississippi Rivers, mighty streams providing a continuous supply of water so great in the area that it may literally be regarded as inexhaustible.

To put it more dramatically, every city in the nation could draw its daily water requirements from the Mississippi River at St. Louis and still leave 86 billion gallons of water a day un-

used!

According to a geological survey made by the U. S. Government, the water used for all purposes in the St. Louis area is less than one per cent of the available surface water supply.

When the potential ground water supply and the unconsumed water that is returned to the streams and ground-water reservoirs are considered, the present water requirements of the area become only a few tenths of one per cent of the water available.

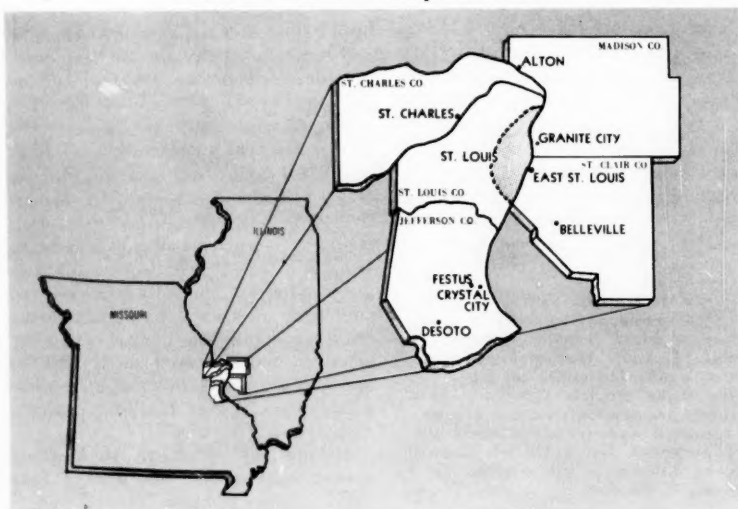
The survey showed further that the quantity of water flowing in the Mississippi River at St. Louis ranges from a minimum of 27,600 cubic feet per second to a maximum of 1,300,000 cfs. The average flow is 168,500 cfs.

In St. Louis and St. Louis County alone, treated water is available from plants with capacities totaling close to 500 million gallons a day which is well above the current peak demand.

Concerning the overall situation, the geological report commented: "The water resources of the St. Louis area are capable of supporting all the industry that the strategic location, the excellent land, water, and air transportation and the many other advantages of the area might attract."

The vast quantities of water flowing in the Mississippi and Missouri Rivers also has had its disadvantages in past years when floods occurred, but this year a new \$133 million flood control project was launched which will bring

The St. Louis Metropolitan Area



effective protection to St. Louis.

Of the total cost of the project, the Federal Government will bear approximately \$125 million, while the remainder of the cost will be borne by the City of St. Louis and local interests.

On October 7 last year the U. S. Corps of Engineers signed a contract totaling \$2,355,000 with the engineering firm of Sverdrup & Parcel, Inc., and on December 15 requests went out for bids for first construction contracts.

The engineering contract, covering a period of 36 months, includes additional architect-engineer services in connection with preparation of base maps, interior drainage studies and general design features. Also included is preparation of plans and specifications for 10 construction contracts covering levees, floodwalls, sewer alterations, and pumping stations for the major portion of the project.

The project got officially under way on February 24, 1959, with groundbreaking ceremonies held at the end of Humboldt Street, near the river.

Spearheading the effort which culminated in the launching of the program was the St. Louis Flood Control Association, an affiliate of the Chamber of Commerce of Greater St. Louis, which was formed in 1947 following several floods.

Future activity which will affect the water situation in the area involves a plan sponsored by a Citizens Committee to develop the maximum potential of the 4,000-square-mile Meramec River Basin.

The long-range program would result in a vast vacation-tourist-recreation development, while at the same time it will give flood control, storage of water for public and industrial use, and perhaps aids to navigation.

A citizens Meramec Basin Corporation has been formed, and Missouri Governor James T. Blair, Jr., has requested the U. S. Corps of Engineers to review its plans for the Basin and to make recommendations. The Basin Corporation proposes to contract with Washington University for studies leading to a comprehensive plan for the Basin covering water management, zoning and economic development aspects.

Transportation par Excellence

When, back in 1764, St. Louis began as a fur trading post hacked from the wilderness, it also became the natural gateway to settlement of the vast western area. Thus, through the years it developed as a national crossroads for



Looking somewhat like the spokes of a wheel, with the St. Louis area as the hub, this diagram shows how railroads fan out from here to provide service to and from all parts of the nation and to Canada.

transportation, and it certainly is pre-eminent in that position today. The Union Electric Company aptly describes the area as a place where "you operate from the center—not from the rim."

Ranking as the world's second largest rail center, the St. Louis Metropolitan area is served by 18 major trunk lines, one short line and five terminal railroads. These fan out from here in all directions like the spokes of a wheel.

Actually, St. Louis railroads and their affiliates operate 52 per cent of the total mileage operated by all Class 1 railroads in the nation. A special fast freight service for less-than-carload merchandise has been developed into the best delivery service radiating from any city in the country.

Insofar as trucking service is concerned, the St. Louis area also ranks second in the nation as a trucking center. Altogether, there are more than 300 motor freight companies serving the city, including 293 common carriers and 30 contract carriers. These have more than 3,000 tractor trailer units arriving and departing daily from Greater St. Louis.

Through service via truck is avail-

able to major U. S. cities, along with direct service to over 25,000 cities in this country and Canada.

Providing air service—passenger, air freight and air express—to St. Louis are American, Braniff, Delta, Eastern, Ozark, Slick and TWA. These give around-the-clock schedules in all directions. St. Louis also is an international port of entry for air freight.

The airport, mentioned earlier in this report, is one of the few commercial airports in the nation capable of handling all types of planes, including the new jet transports.

The terminal building has 40 acres of concrete aprons for parking planes, a parking lot for automobiles, an air freight building and other accessory facilities. It cost approximately \$7,500,000, and plans have been set to increase its size in a series of expansions which eventually will double its present area.

Facilities at the airport also include bases for private and executive planes, an important asset in the face of the growing number of owners of private and company aircraft.

In addition to the fact that the Mis-



The Mississippi Waterways System

Mississippi and Missouri Rivers provide the St. Louis Metropolitan area with unlimited supplies of water for all uses, these streams also are a part of the world's largest inland waterways system.

This system, with 13,494 navigable miles, connects by water 29 industrial centers from Minnesota to Florida and from Pennsylvania to Texas. St. Louis occupies the strategic position of being literally the center of this system.

Freight shipments on the middle Mississippi now average in excess of 22 million tons annually. In contrast to the puffing old craft of the steamboat era, modern diesel-powered units can now propel 25 or more barges in a single tow. Under fingertip control, these barge trains utilize radar at night and have radiotelephones for ship-to-shore communications.

It is noteworthy in this connection that the world's largest builder of inland waterways towboats is St. Louis Shipbuilding & Steel Company.

The 55 barge terminals here handle more than 7,400,000 tons of cargo a year, making the city the top inland port on the Mississippi. Commodities shipped include everything from auto-

mobiles, beer and coffee to wine, yaws and zinc.

A part of the "new look" in the city's progress will be its expenditure of \$2.5 million to build an 800-foot dock, wharves and warehouses for handling merchandise freight as well as bulk shipments.

Along with its outstanding facilities for rail, air and water transportation, Metropolitan St. Louis also is the center of modern, wide and well maintained highways. Included are three trans-continental and two major north-south arteries—40, 50, 61, 66 and 67. Designated to be part of the new Interstate System of highways are 40, 66, 50, and 61.

Within the Metropolitan St. Louis area, encouraging progress is being made in the rapidly developing network of super-highways to serve the bi-state community.

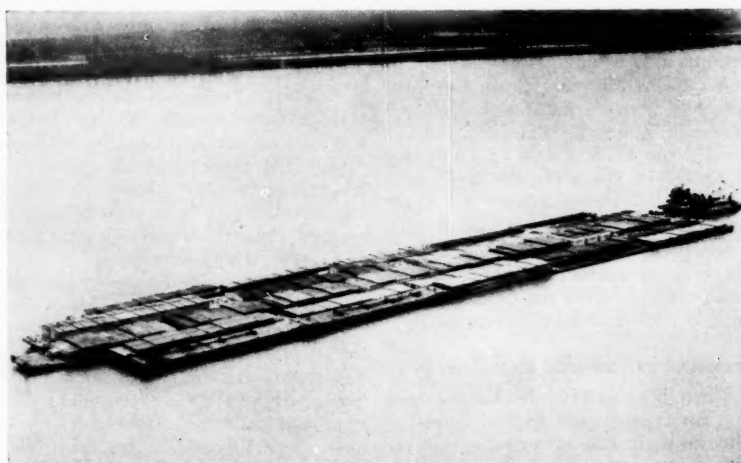
The estimated cost of approved expressway projects for St. Louis and St. Louis County is currently \$350 million, of which more than \$100 million has been obligated.

This does not include such projects as the Inner-Belt Expressway and other projects to be constructed with local funds. With at least \$200 million to be spent on the East Side, the metropolitan expressway network will represent an investment of well over half a billion dollars.

All these plus transportation factors add up to an assurance that the prospective plant builder who wants to serve a regional or national market can find an abundance of facilities here for shipping out everything from the smallest to the largest and heaviest goods and of being able to haul in bulk raw materials at low cost.

Blueprint for Progress

One of the most impressive moves being made in the huge improvement program at St. Louis is the \$250 mil-



Federal Barge Line's United States, the world's most powerful river towboat, is shown near Chester, Illinois, bound up the Mississippi River for St. Louis with a tow of 42 barges carrying 30,661 tons of general cargo. The towboat was built by St. Louis Shipbuilding & Steel Company.

METROPOLITAN ST. LOUIS

lion redevelopment project in midtown.

In this project some 465 acres of slum dwellings and outworn factories are being cleared away for a planned district to include 190 acres devoted to industry and commercial buildings, 75 acres of housing, and the remainder to public and semi-public uses.

This part of the long-range planning for the city is called the Mill Creek Valley urban renewal project and will result literally in the creation of an entirely new community in the heart of St. Louis. The St. Louis Urban Redevelopment Corporation will handle all the industrial development and a portion of the housing.

Another spectacular development will be the proposed Jefferson National Expansion Memorial to be located on the historic waterfront here. The area, now occupied largely by railroad tracks and open space where cars are parked will be transformed into a beautiful park.

The distinguishing feature will be a stainless steel arch which will tower 590 feet above the waterfront, to symbolize the city's traditional position as the "Gateway to the West."

Contiguous Development

It is proposed also that the contiguous downtown area will be developed with new buildings to blend in with the memorial.

Current expectations are that the memorial will be completed by 1963, the year prior to the city's Bi-Centennial. On the latter score, plans are already shaping up to make that celebration by far the most important in the city's history.

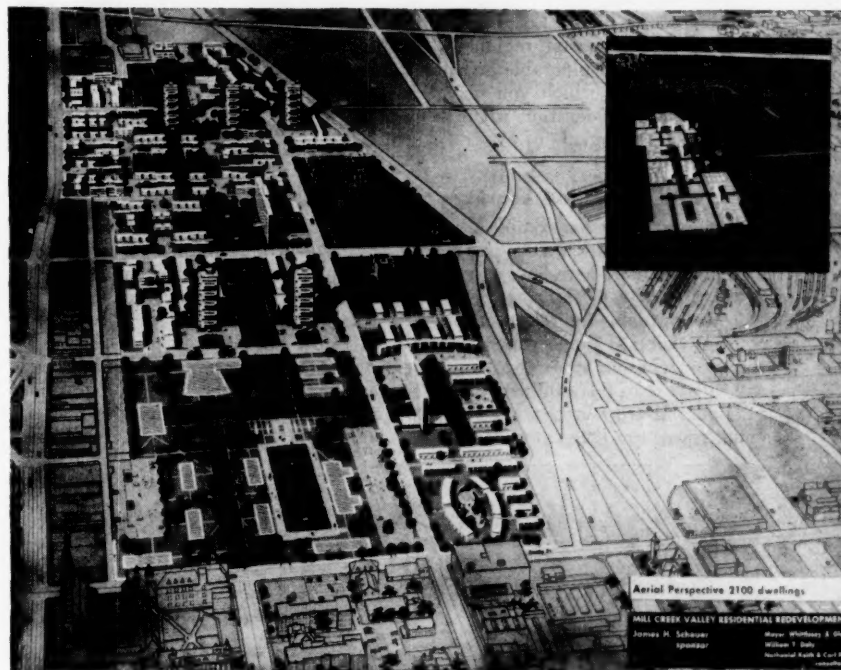
Now under study is another proposal for the construction of a huge sports stadium in the downtown area of St. Louis. According to Charles L. Farris, executive director of the city's Land Clearance for Redevelopment Authority, it would be a \$30 million project, providing seating for some 55,000 spectators, parking facilities for 12,500 cars, and a motel. It would be located roughly adjoining but not infringing upon the riverfront memorial area.

Serious consideration of the proposal is being given by a special seven-man committee of the Chamber of Commerce of Metropolitan St. Louis.

Such projects as these, under way, definitely planned, or proposed, serve further to show the resurgence that is characterizing the thinking and action of the area's leadership. All this augurs well for workers and industrialists alike, now and for the future.



An important part of the dynamic growth in the St. Louis area are new public housing projects. In the foreground of this picture is shown one of several similar projects which are providing modern housing here to replace slums.



The proposed Mill Creek Redevelopment, illustrated in an architect's rendering, is planned to eliminate 465 acres of blighted area in downtown St. Louis. It will provide new housing and space for both commercial and industrial development in the heart of the city.

The Market Area

The immediate market area of St. Louis, composed of the five counties and the City of St. Louis in the standard metropolitan area, has a population estimated at around two million.

Both the economic and social activities of the area are keyed to the central city, St. Louis. The area is linked together by department store deliveries, metropolitan newspaper service, interchange telephone service and public

utilities. With few exceptions, through freight rates apply to and from any point within the area.

With respect to regional and national markets, St. Louis is situated in a central position between the Appalachian Mountains on the East and the Rocky Mountains on the West. It is only slightly west of the population center of the United States in a region which has 52 per cent of the nation's population. It is noteworthy from the industrialist's standpoint that within this region approximately 50 per cent of the manufactured products and 62 per cent of the agricultural products are produced.

This, coupled with the already-noted extensive transportation facilities radiating in all directions, means that the products of any industrial operation located here can easily be shipped north, east, south or west not only into the largest consuming areas of the nation but also to the most distant points in the United States.

Also important is the fact that in the defense picture the St. Louis area is remote from the coastal regions which would be most vulnerable to attack. This is a matter which you may take into serious consideration when thinking about dispersal of your plant locations.

Reservoir of Skilled Workers

Because of the remarkable diversity of existing industry in the five-county area, the workers here have a most impressive variety of skills.

Latest available figures from the Missouri Division of Employment Security showed a civilian labor force in January this year of 837,800 persons in the St. Louis Metropolitan area. Total unemployment was listed at 63,000, or 7.6

per cent of the labor force, leaving total employment at 772,600.

A breakdown of the figures showed 691,100 employed nonagricultural wage and salary workers. These included 260,000 in manufacturing, 430,000 in non-manufacturing activities, and 71,500 in all other non-agricultural employment. The number of agricultural workers on the job totaled 10,000. Female wage and salary employees numbered 217,000.

Average weekly earnings of manufacturing employees came to \$94.23 for those working in durable goods industries and to \$88.37 for those in non-durable goods activities.

The report forecast that hiring at new installations and a high level of construction activity in residential, commercial and highway construction will keep employment high throughout 1959.

It was noted, however, that a surplus of labor is likely to exist in most unskilled and semiskilled classifications, but usual shortages continue to exist for such occupations as engineers, professional workers, stenographers and a few skilled aircraft workers.

Power For Growth

In assessing the various factors which give the St. Louis area strategic and, in many ways, unique advantages for manufacturing and distribution activities, you will be impressed by the services provided by the big Union Electric Company. Other companies in the system are Missouri Power & Light and Missouri Edison.

The system serves 659,031 electric and gas customers in 19,000 square miles of rich industrial, commercial and rural territory along the Missouri

and Mississippi Rivers in Missouri, Illinois and Iowa.

In the St. Louis Metropolitan area alone, Union Electric currently serves 541,544 industrial, commercial and residential consumers.

The Union Electric System power plants have a total capacity of around two million kilowatts. In addition, the system is interconnected through special agreement with several other companies in the region. This permits the most economical production possible through the fullest use of the most efficient generating units of the systems concerned. It also allows the building of additional generating units on the most economical basis as to timing, location and unit sizes.

In the 1958-1962 period the company will have spent \$290 million on plant expansion to meet the growing needs of the area it serves. By 1962 the total plant generating capacity will be 2,244,000 kilowatts.

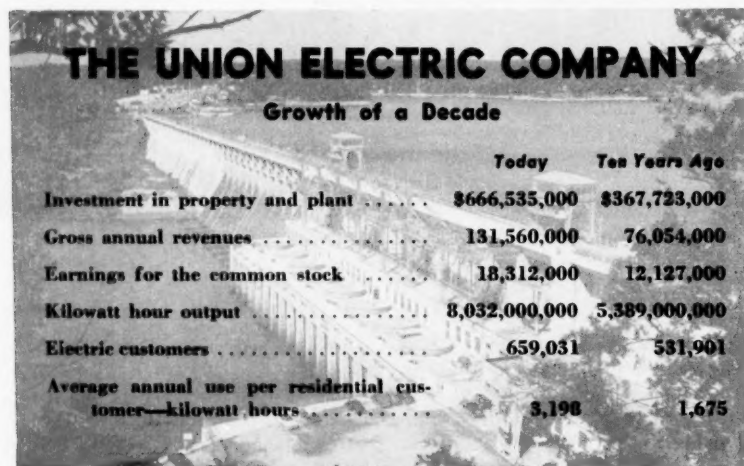
The first new generating plant in this program, which went into service in 1958, was the 280,000 kilowatt turbine at Meramec Plant. The latter will be further increased by about 335,000 kilowatts in 1961. It is planned also that construction will be begun in 1960 on an entirely new plant for the system, and it will go into service sometime in 1963.

Looking to the future, Union Electric is associated with seven other companies in Nuclear Power Group, Inc., which is carrying out a research and development program directed toward producing economical electric power from the atom.

The Dresden Nuclear Power Station, a full-scale boiling water reactor plant, is scheduled for completion in 1960. It will be owned and operated by Commonwealth Edison Company, but experience in its design, construction, and operation will be available to all of the participants.

In addition to its participation in this program, Union Electric is engaged in constant research and work improvement activities. The company's developmental efforts range from specialized studies of new equipment and methods to a sustained company-wide program to stimulate the adoption of better ways of doing all of its jobs, large and small. The evidence is that the cumulative effect of these activities has been substantial.

Union Electric maintains a competitive rate structure. A factor contributing to this situation is the virtually un-



METROPOLITAN ST. LOUIS

limited supply of low-cost coal available in Illinois coal fields lying within a few miles of the company's major plants.

Large amounts of natural gas are purchased, particularly during the summer months. Since this gas is bought on an interruptible basis, it is obtained at economical prices. Union Electric has an important measure of protection against the effect of rising fuel prices through a provision in the rate schedules for most large users which adjusts the rates for these customers to reflect changes in the cost of fuel.

In commenting on plus factors in the St. Louis area, Union Electric's Advertising Manager Walter G. Heren asserted: "The availability of unlimited supplies of water and an unexcelled transportation network are, in my opinion, this area's greatest assets." He said further that the Mississippi River from St. Louis on South is open all the year around, and barge traffic can move in and out in that direction when the streams to the north may be frozen over.

Merrill E. Skinner, vice president and director of sales for the company, added the point that the location of St. Louis is in a strategic spot with the nation's huge "Bread Basket" area to the West and the nation's industrial concentration to the East and North.

This gives opportunities for the development of additional agriculturally oriented industries in the St. Louis area, and the farm sections also supply large numbers of easily trained workers for industry.

Government and Taxes

The Missouri state government and the various administrative bodies in the St. Louis Metropolitan area are generally favorable to industry and will offer full cooperation to the industrialist who is considering locating a plant there.

Since the City of St. Louis is not in a county, industries located within the city limits pay no county taxes. The levies to which manufacturers and merchants are subject are (1) those on real estate and personal property, exclusive of equipment, raw materials and finished products; (2) merchants and manufacturers ad valorem tax (in lieu of general tangible personal property tax), including license tax on equipment, raw materials and finished products and sales tax; and (3), and earnings tax.

The real estate and personal property tax is \$3.36 on \$100 assessed valua-

tion. The merchants license tax is \$2.23 on \$100 assessed valuation of the greatest amount of goods, wares and merchandise on hand between the first Monday in January and the first Monday in April. A sales tax of \$1.50 on each \$1,000 of sales in the city is part of the license tax.

The manufacturers license tax is \$2.23 on \$100 assessed valuation of the greatest value of raw materials, merchandise and finished products, tools and machinery and appliances on hand at any time between the first Monday in January and the first Monday in April. A sales tax of \$1.50 on each \$1,000 of sales is a part of the license tax.

The earnings tax is imposed at a rate of one half on one per cent on salaries, wages, commissions and other compensation of individual residents of St. Louis or of non-residents earned in St. Louis. Corporations pay the tax on the net profits earned as a result of work, service, business or other activity conducted in St. Louis.

In St. Louis County, the county and state real estate and personal property tax rate for industry is 96 cents on \$100 assessed valuation. There are school districts which range from \$1.94 to \$3.60 on \$100 assessed valuation, depending on the particular district. There are also in some locations municipal, fire district and sewer district taxes.

A state merchants and manufactur-

ers tax is assessed on the same basis as in the City of St. Louis. The rate of this tax is equal to the total tax rate applicable to real estate and/or personal property for the area in which the establishment is located.

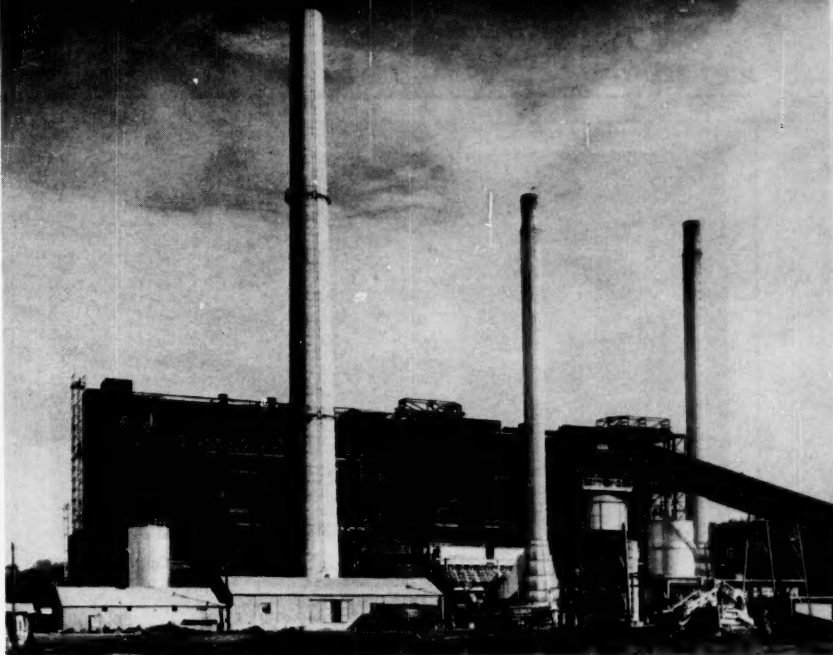
In the other counties of the St. Louis Metropolitan area, real estate and personal property are subject to a county and local tax based upon \$100 assessed valuation. The rates vary with each taxing body.

Since the Illinois part of the Metropolitan area is characterized by a great number of large scale industrial operations, valuations of industrial properties are low. The conservative basis of assessment of land and buildings, raw materials, finished products, machinery and other stock and equipment is largely responsible for the reasonably low taxes paid by manufacturers and merchandising interests in this section.

Existing Industry

The largest new addition to the St. Louis area industrial scene is Chrysler Corporation's Plymouth Assembly Plant, a huge installation covering 1,400,000 square feet of space on a tract of 235 acres.

Concerning the reasons for selecting this area as the site for the new plant, Plant Manager Nelson E. McLeod observed that St. Louis is close to the heart of a rapidly expanding automobile market in the South Central and



The Meramec Power Plant of the Union Electric Company System is located at the mouth of the Meramec River on the Mississippi. The plant has two 140,000-kilowatt units and one 280,000-kw unit. A fourth unit of 300,000-kw is under construction.



Nearing completion in St. Louis is this huge new \$50 million plant of Chrysler Corporation. With 1.4 million square feet of floor space, the new facility is on a tract of 240 acres. It will get into production on 1960 model Plymouths.



One of the most attractive industrial spots in the nation is the new Engineering Campus of the McDonnell Aircraft Company at St. Louis. McDonnell which employs more than 25,000 persons, has a plant at Lambert-St. Louis Field. It produces jet aircraft and was also awarded the contract to build the first capsule for man's initial entry into space.



Located at Granite City, Illinois, in the Madison County part of Metropolitan St. Louis, is the Granite City Steel Company operation which sprawls over 550 acres of land. It is noteworthy that this company has been growing at a rate three times faster than the steel industry average.

Southwest areas of the nation.

He added: "The St. Louis area offered a number of economic advantages especially in regard to transportation costs, and the construction of the plant here will enable Chrysler to provide faster delivery service to its 1,400 dealers in the 19-state market area. . . .

"Chrysler Corporation, naturally, gave serious consideration to this area as a place where people might live and work contentedly. We found here an area with excellent educational facilities, a great medical center, numerous parks and attractive neighborhoods, first-rate health and welfare facilities and a wide diversity of industries that tends to keep the economy and employment opportunities on a reasonably level keel."

When the plant begins operations later this year it will turn out 800 to 960 cars daily, and an estimated 240 tractor loads of Plymouths will be shipped out every 24 hours.

It is expected that employment will run to between 3,500 and 4,000 persons, and the payroll of the plant will run around \$500,000 a week.

An outstanding feature of manufacturing operations in this area is the remarkable diversity. As a result of this, no one industry class employs more than 10 per cent of the total manufacturing employment.

Actually, of the 468 different classifications of manufacturing recognized by the Bureau of the Census, St. Louis has 347 or close to 75 per cent. Such diversification gives the area as solid a base for economic stability as any in the nation, relatively unaffected by seasonal or other declines in one or several industries. It also means both a ready market for a wide variety of products and easy procurement of materials for manufacturing.

Altogether, there are well over 3,000 manufacturing establishments in the St. Louis area, standing evidence that for a long time it has been an ideal place for the location of a great variety of plants.

From the standpoint of numbers of wage earners employed, the 15 leading industry classifications in the area are, in order: Food and kindred products, transportation equipment, primary metals, chemicals, non-electrical machinery, electrical machinery, fabricated metals, textiles and apparel, leather products, printing and publishing, stone-clay-glass, paper products, petroleum and coal products, lumber and wood, and ordnance.

Among major national firms planning new installations in the area are Du Pont and Kaiser Aluminum & Chemical. The former has acquired extensive acreage in Jefferson County, while immediately across the Mississippi River on the Illinois side the latter has purchased several thousand acres of land for a plant site.

During 1958 alone, industrial and commercial development totaling \$235,901,000 in value was reported for the St. Louis area. The figure compares with \$205,878,000 for 1957.

One of the most important mineral resources available close to the St. Louis Metropolitan area is coal. These coal beds extend over an area about 450 miles long and 200 miles wide from northern Illinois across the state to the northwestern corner of Kentucky and across Illinois east to west into Indiana. The reserves are estimated at around 200 billion tons.

The combination of adjacency and excellent transportation facilities from the mines to the St. Louis area means that the fuel can be brought in at freight rates which are uniformly reasonable.

While production of petroleum within Missouri is slight, there are extensive oil fields in Illinois, approximately 70 miles southeast of here, and in the Metropolitan area are four big refineries.

For many years Missouri has been the nation's leading producer of lead. The "Lead Belt" region, approximately 70 miles south of St. Louis, is centered in Madison and St. Francois counties. Another extensive deposit, containing both lead and zinc ores, is in Washington County about 60 miles southwest of St. Louis.

Bureau of Mines figures show that in 1957 Missouri produced 126,435 short tons of lead, a major part of the national total of 338,216 short tons.

Zinc production in the tri-state area of Missouri, Kansas and Oklahoma totaled 33,761 short tons in 1957.

Missouri also has impressive production of iron ore. The Bureau of Mines figures give the state's total output of crude iron ore in 1957 as 721,279 long tons.

Another mineral which occurs in abundant quantities throughout this area is limestone. There are extensive beds of high-purity limestone in both Missouri and Illinois.

Deep-Rooted Culture

Appreciation of and extensive participation in things cultural is tradi-

A YEAR OF GROWTH

Industrial and commercial development of more than \$235 million was reported to the Chamber of Commerce of Metropolitan St. Louis by firms within the metropolitan area during 1958.

1st Quarter	\$ 89,667,000
2nd Quarter	50,605,000
3rd Quarter	40,132,000
4th Quarter	55,497,000

Total \$235,901,000

tional in St. Louis, beginning in the early days when the city welcomed traveling troops of actors, the showboats, band concerts in the park and frontier artists.

Founded in 1880, the St. Louis Symphony Orchestra is the second oldest in the nation and one of the best. It presents the important works in the symphonic repertory throughout the winter season.

Highlights of the regular musical season here include presentations by the Civic Music League, Principia, Washington University Series, Clayton Community Series, Ethical Society, Webster Groves Community Series, St. Louis Little Symphony, St. Louis String Ensemble, Christ Church Cathedral Series, Bach Society, Artist Presentation Series, Entertainment Enterprises, Concordia Seminary, St. Louis Philharmonic Orchestra, and Kirkwood Symphony Orchestra.

The St. Louis Municipal Opera, a professional organization, produces sev-

eral musicals a year and is in its forty-first season this year.

The City Art Museum here, which is visited annually by more than three million persons, is in 1959 observing its 50th anniversary. This year also marks the opening of an annex and auditorium building paid for with \$1 million in bond issue money.

Providing service to more than 240,000 card holders, the St. Louis Public Library System includes everything from 21 branches and sub-branches to library stations, bookmobiles and school classroom libraries.

Another stellar attraction which adds to the fun of living in this area is the famous St. Louis Zoo. For years it has had one of the nation's largest and best collections of animals, plus the unique animal shows that have attracted national attention.

Just for Fun

The center of the St. Louis park and recreation system is Forest Park which covers 1,380 acres and one of the largest city parks in the nation. It is two-thirds again as big, for example, as Central Park in New York.

Offering an infinite variety of activities, Forest Park attracts 100,000 or more persons every Sunday afternoon.

Altogether, the city has 67 parks occupying 3,140.6 acres and 44 park strips occupying 122.1 acres. There are also 45 playgrounds in parks and two at public housing projects, plus 15



One of the outstanding parts of the cultural life in St. Louis is the Municipal Opera. It produces several musicals annually and is currently in its forty-first season. Shown is a production of *Rio Rita*.



In addition to its incalculable worth as a water source and means of commercial transportation, the mighty Mississippi River also has its fun attractions. At left is the Admiral, a popular craft which takes sightseers from St. Louis on trips up and down the river. Behind it is the Goldenrod Showboat which presents old-time melodramas nightly.

picnic areas, 11 community recreation centers, four public baths, greenhouses for flowers and shrubbery, a nursery and a conservatory.

There are also 104 tennis courts, 103 softball diamonds, 40 soccer fields, seven football fields, 38 baseball fields, 19 wading pools, seven swimming pools, six handball courts, three fly and bait casting docks, two golf courses, two field hockey fields, one cricket ground, one rugby field, one archery range and an outdoor skating rink for both ice and roller skating in season.

St. Louis still has a showboat, too, the last one on the Mississippi River. Melodramas are presented aboard nightly. The Admiral, a sight-seeing boat, makes daytime and evening cruises on the Mississippi, from the St. Louis levee, during the summer. It is air-conditioned, 375 feet long, 90 feet wide and five decks tall. It has room for 4,400 passengers and has a two-deck ballroom.

Sailboating is another popular activity, centered on Alton Lake which is formed by a dam on the Mississippi just north of St. Louis.

Besides all this, St. Louis is the home, of course, of the National League Cardinals. The Cardinals' Busch Stadium, recently remodeled, has a seating capacity of 35,000.

In addition to all the recreational facilities close at hand, the rivers and streams throughout the state provide many sports opportunities. Only a few

hours away from St. Louis are the Ozark recreational and vacation area and the Shepherd of the Hills Country.

Many expert anglers come to Missouri from all over the nation for trout fishing. The Lake of the Ozarks, Lake Wappapello, the many caves, caverns and wooded areas in the region, and the Mississippi haunts of Mark Twain fame make Missouri one of the nation's

popular vacation spots.

One of the most outstanding attractions in the state is the Big Springs Country in the Southeastern portion of Missouri. In this area, which still retains a primeval quality, there are more than 5,000 square miles of rugged, heavily forested terrain.

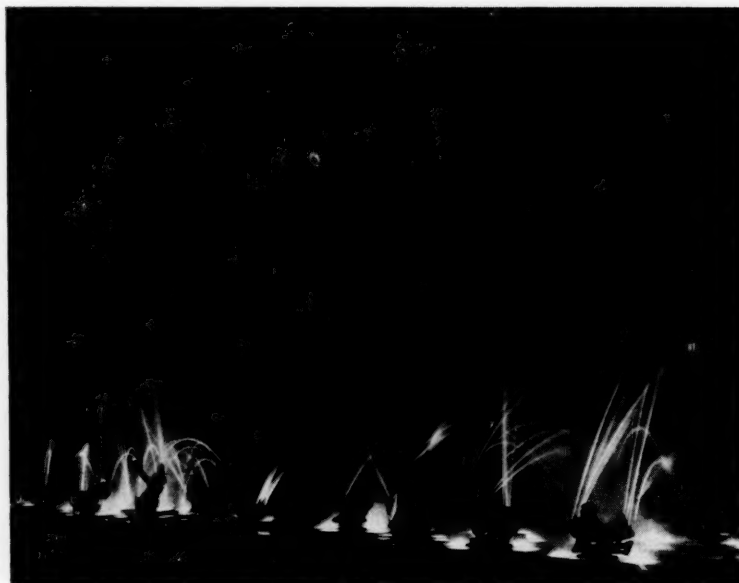
A feature of the area is that it has many giant springs and hundreds of smaller ones, providing unique and constantly different settings of beauty. The Big Springs Country is a place that should be enjoyed in a leisurely manner, for the highways in the area are some of the most scenic in the nation.

However, even though the main highways are extremely picturesque, the good roads off the beaten path will pay good dividends to the nature and beauty lover.

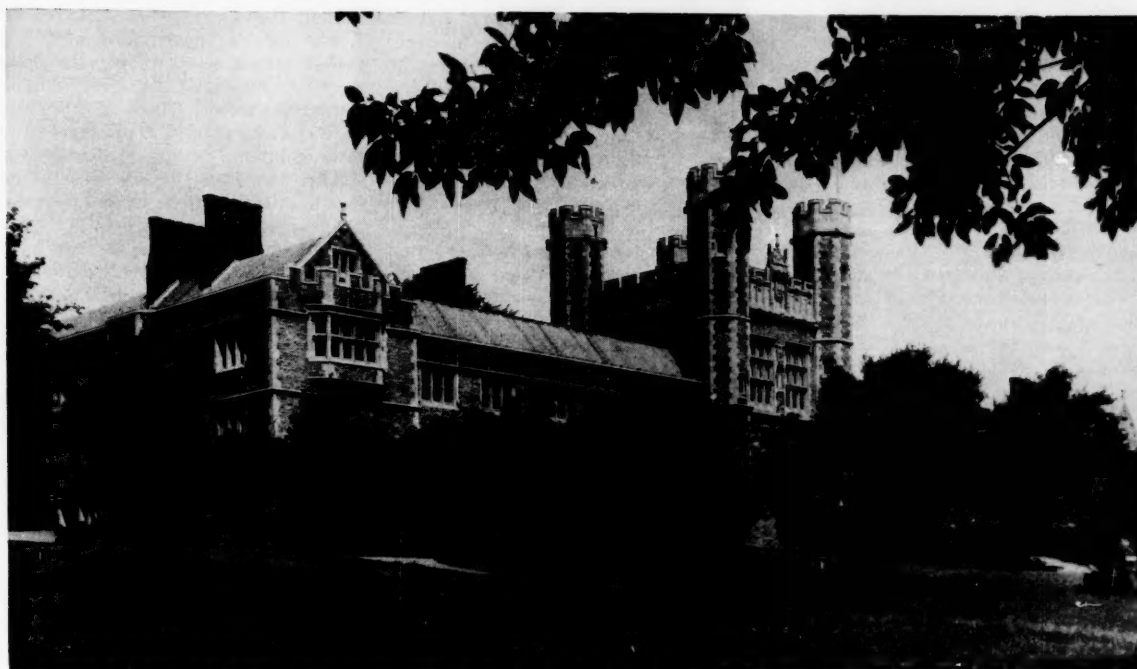
The people of the area have preserved the old arts and crafts such as basket weaving and wool carding by hand. The old fashioned "hoe-down" also remains popular, and in addition to the fiddle, the harmonica and guitar are favorite Ozark instruments for rendering lively folk tunes.

Education, In Depth

Metropolitan St. Louis has excellent public school systems which are constantly being improved and enlarged, and the plant builder who locates in this area may be assured that the



This interesting night view shows the Fountain Plaza in front of the St. Louis Union Station. Designed by the famous sculptor Carl Milles, the fountain symbolizes the meeting of the Missouri and Mississippi Rivers. It is a favorite beauty spot for visitors to the city.



Magnificent Brookings Hall is the administration building of Washington University here. Dating back to 1853, the university has a landscaped campus covering 155 acres. Its 15 schools and colleges comprise of physical plant which includes 48 major buildings. The Tudor-Gothic structures in their beautiful settings make one of the most attractive spots in this area.

children of his employees have happy surroundings and will get good training.

In the more than 130 elementary schools in St. Louis, for example, there is a program scientifically designed to teach individual children at the rate to which they are best suited.

Through this plan the pupils move systematically through the fundamental skills at their own rates, and instruction and learning material are adjusted to their capacities. This program has been extended through the eighth grade in the elementary schools and is continued in the high schools.

In the field of higher learning, the area has two outstanding universities, St. Louis University and Washington University.

The oldest university west of the Mississippi, St. Louis University was founded as an academy in 1818 and chartered as a university in 1832.

Its schools and hospitals form one of the largest Catholic medical centers in existence, including medical and dental schools. The university's library recently acquired microfilm copies of many Vatican Library manuscripts.

St. Louis University currently has an enrollment of around 8,000 and more than 1,200 faculty members.

Washington University has a land-

scaped campus covering 155 acres, with Tudor-Gothic buildings. Dating back to 1853 the university has an enrollment in excess of 11,000 in its 15 schools and colleges, and its total physical plant includes 48 major buildings. Eleven of these were built in the past 10 years.

Medical, dental and nursing schools are operated in connection with Barnes Hospital which is part of "Hospital Row" in midtown St. Louis.

It is noteworthy, too, that both St. Louis and Washington Universities have extensive business and industrial liaison programs and have adapted their curricula—particularly in extension divisions—for the further training of St. Louis executives, engineers and others in the area's business and industrial world.

In addition to regular public schools in the area and the colleges, St. Louis alone also has three vocational high schools and five excellent professional vocational training schools.

Another important aspect of the total cultural picture in the area is the number of churches that may be seen throughout Metropolitan St. Louis. Besides the large number of Catholic and Lutheran churches, virtually all other denominations are well represented to

meet all the needs of the citizenry.

During the past few years alone about 75 new churches have been built in the area, and more than \$15 million has been invested in new buildings and remodeling.

Essential Services

To provide all the necessary services for a large city, St. Louis has more than 9,000 civil service employees, not counting 2,500 employees of the Police Department. The civil service personnel varies from carpenters and biochemists, engineers, X-ray technicians and elevator inspectors, to stenographers, life guards and cooks.

The St. Louis Fire Department has 1,097 firemen engaged in fire fighting and fire prevention. In the 1957-58 fiscal year the department made 12,539 fire prevention inspections and had 5,830 fire hazards corrected.

The city has 40 fire stations, 43 pumps and 23 hook and ladder trucks and auxiliary trucks. The fire alarm system uses telephone lines, short wave radio and 2,159 boxes connected to fire alarm headquarters by 1,579 miles of underground wire.

Helping to keep St. Louisians healthy are two general hospitals. Each of these has an out-patient clinic, emergency and

admitting department and school of nursing. The city's hospital system also includes an infirmary for chronic patients, an intermediate care and tuberculosis hospital, a mental health center, schools of X-ray technology, medical record library science and laboratory technology, and emergency ambulance service.

The hospital system has some 3,300 employees, including 330 doctors, 670 graduate and student nurses, and 1,100 hospital attendants. The average number of patients is about 3,200 in all hospitals at any one time. The clinics give more than 200,000 treatments a year, while the emergency and admitting departments handle more than 150,000 persons a year.

Federal Government, and day nurseries and boarding homes for children.

Major activities of the Public Health Service include the operation of five district health centers and clinics for mothers, infants and pre-school children; direction of health and mental hygiene program for parochial grade and high schools, and many other services.

In the current expansion program of the city's hospital and health facilities are a new \$700,000 health center and a new \$785,000 hospital laboratory, both built with bond funds.

Other services within the St. Louis Metropolitan area include regular and frequent schedules over approximately 87 miles of streetcar lines and 909 miles

nation, the telegraph facilities in St. Louis have a reperforator switching system which provides for the automatic transmission of three million messages a month. These facilities link St. Louis with about 130 principal cities throughout the nation.

There are some 15 radio stations and four television stations serving the area. St. Louis has two metropolitan daily newspapers and nine dailies with local distribution. Combined circulation of the two metropolitan papers is approximately 703,000.

Four Distinct Seasons

Although the climate of the St. Louis area is one of four distinct seasons, it is one in which the extremes of heat and cold are seldom experienced. And, periods of excessive rainfall or prolonged drouth seldom occur. Annual participation is well distributed throughout the year, with a slight maximum during the Spring.

On an annual basis, the annual temperature here is 56.7 degrees. The temperature drops to freezing or below on an average of 73 days during the year, with 53 of those days occurring during December, January and February.

You can expect a heating season that rarely begins before October 15 and seldom extends beyond April 15. In an average year, heating costs for a season would be distributed this way: two per cent in October, nine per cent in November, 24 per cent in December, 26 per cent in January, 25 per cent in February, 10 per cent in March and four per cent in April.

For operations which require space cooling, this will be necessary only during June, July, August and September.

Since extremely low temperatures are rare, and snowfall is light and short-lived, construction activity can proceed the year around. Also, certain types of economical construction can be used which would not be suitable in more severe climates.

Further, sun time is such in this area that the normal 8 a.m. to 5 p.m. working day falls during daylight hours. St. Louis has a Daylight-Savings Law under which clocks are advanced one hour on the last Sunday in April and returned to Standard Time on the last Sunday of October. The result of these sunlit working days is lower costs in lighting.

Plant Sites Available

A major development which will be of particular interest to those looking



An outstanding feature of historic St. Louis University is its new Pope Pius XII Memorial Library. Microfilm of the complete Vatican Library in Rome is being housed in this building. St. Louis University was founded as an academy in 1818 and chartered as a university in 1832.

As mentioned earlier in this report, the St. Louis area also has the advantage of the extensive medical programs at both St. Louis and Washington Universities. Altogether, there are 62 hospitals of various sorts in the city.

Of particular importance to industrialists, too, is the fact that the city has an extensive and efficient public health program. Public health personnel conduct regular inspections of the restaurants, grocery stores, markets, bakeries and other places that serve food to the public; dairy farms that supply milk to the city, as well as all dairy plants; industrial plants to eliminate health hazards; slaughter houses and meat packers not inspected by the

of bus routes. The principal routes center in the downtown section with a network of crosstown lines intersecting them at frequent intervals. Local passenger transportation facilities are of the first order, permitting the assembly of labor from a large area.

Business and commercial operations in this area have the advantage of outstanding telephone service. There are some 2,750 long distance telephone circuits radiating from here, providing direct communication to 169 principal cities, and direct long distance operator dialing is available to more than 1,250 towns and cities throughout the country.

Ranked as the fifth largest in the

for plant sites in this area for use within the next few years is the St. Louis Industrial Park.

The park will be in the 5,000-acre Columbia Bottom tract at the confluence of the Mississippi and Missouri Rivers. This will be developed into a planned industrial district at an estimated cost of some \$20 million. According to a survey made by the engineering firm of DeLeuw, Cather and Company, the acreage provides "the best available site for large industrial development in close proximity to St. Louis. This development provides an unsurpassed location for industry in the St. Louis area to meet all demands in the foreseeable future."

About 3,650 of the 5,000 acres will be utilized by the park, with areas designated for light and heavy industry. A levee will be built around the park to provide flood protection, and all forms of transportation will be available, including a heliport. There also will be a sewage plant and pumping station, and carefully planned access roads.

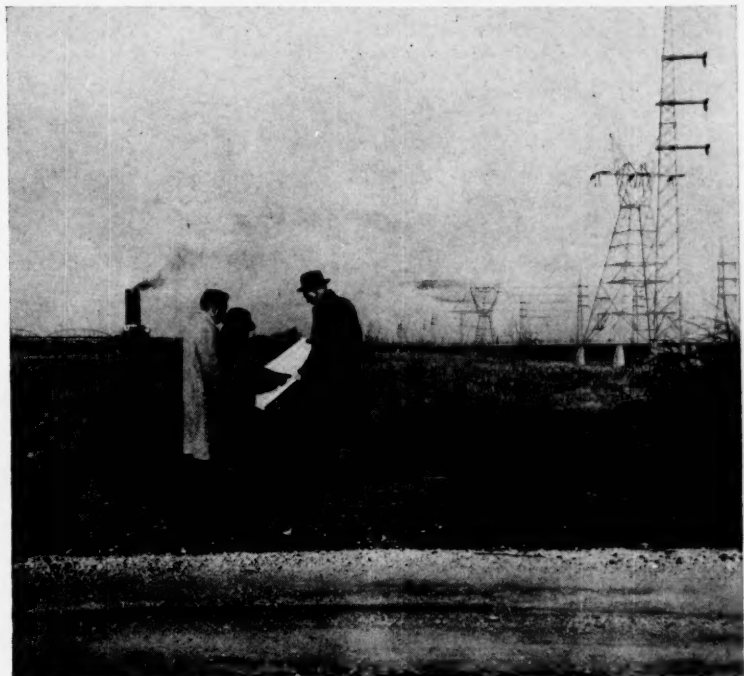
A community project, the park development has been pushed by the Chamber of Commerce which in 1957 formed a non-profit corporation called the St. Louis Metropolitan Chamber of Commerce Industrial Park Corporation. This agency provides the basic legal body needed to take immediate and formal action as final plans for the park unfold.

Officers of the Park Corporation are Clark Hungerford, president of the Frisco Railroad, president; Kenton R. Cravens, president of the Mercantile Trust Company, executive vice president; and Aloys P. Kaufmann, president of the Chamber, secretary-treasurer. Directors are David R. Calhoun, Jr., of the St. Louis Union Trust Company, and Richard C. Coburn, a St. Louis attorney.

An example of a smaller planned industrial district is the Lindberg-Warson Industrial District just outside the St. Louis city limits.

The park has all facilities, including public transportation, and the industrial planning will permit the sale or lease of smaller tracts varying in size from one to five acres. Build or lease back arrangements can be made.

East St. Louis, in St. Clair County on the Illinois side of the Mississippi River, is the largest community immediately adjacent to St. Louis. While it is already heavily industrialized, the



Members of the industrial development department of Union Electric Company discuss with a prospective industrialist a possible plant site near St. Louis. This flat, open land is typical of many thousands of acres in the Metropolitan Area which can be made available for plant sites and which are within reach of all necessary utilities.

city still has extensive land sites available for locations of plants of virtually all types, light or heavy industry.

Three bridges span the Mississippi from downtown East St. Louis to downtown St. Louis, and the St. Clair County community has all the other advantages common to the entire metropolitan area.

Other specific industrial sites in the area, according to a study made by Union Electric Company, include the following:

Allenton Site, a 500-acre area 30 miles southwest of St. Louis on Highway 66, and the Missouri Pacific and Risco railroads.

Cahokia Site, 1,200 acres on the Mississippi River south of East St. Louis adjacent to the Cahokia Power plant, served by the Terminal Railroad Association and several trunk lines.

Hartford-Mitchell Industrial District, 8,000 acres opposite the confluence of the Mississippi and Missouri Rivers, served by three trunk line railroads and two switching roads.

Festus-Crystal City site, 300 acres, 40 miles south of St. Louis in Jefferson County, served by Missouri-Pacific Railroad.

Elm Point Site, 1,200 acres, 30 miles

west of St. Louis in St. Charles County, served by the Wabash.

Godfrey, Illinois site, 25 miles north of St. Louis on U. S. Highway 67 and the GM&O Railroad.

Maryland Heights Industrial District, 2,000 acres on the Rock Island Railroad and Circumferential Expressway 15 miles west of downtown St. Louis.

Valley Park Site, 600 acres on Highway 66 and Frisco Railroad, 20 miles southwest of St. Louis and adjacent to private airfield.

Meramec Site, 50 acres 20 miles south of St. Louis on the Missouri Pacific and adjacent to Union Electric's Meramec power plant.

Orchard Farm Site, 30 miles northwest of St. Louis on C.B.&Q. Railroad in St. Charles County.

St. Clair Site, 70 miles southeast of St. Louis on Highway 66 and the Frisco Railroad.

St. Peters site, 30 miles west of the city, 200 acres served by the Wabash Railroad.

Smart Field, 600 acres 30 miles northwest of the city in St. Charles County, served by the C.B.&Q.

Ten Brook, 200 acres on the Frisco road, 20 miles south of downtown St. Louis.



J. E. (Gene) Johanson, pointing at map of the St. Louis area, is manager of industrial development for Union Electric Company. With him in the picture is Henry W. Heck, industrial engineer for the company. With long experience in the development field, Mr. Johanson is a graduate of Westminster College, Fulton, Missouri, and received his B.S. in engineering from Washington University. He was for a short time a student engineer with General Electric, but the rest of his career, since 1931, has been spent with Union Electric, and he has progressed through several assignments to his present position.

The Union Electric I. D. Team

Manager of industrial development for Union Electric Company is J. E. (Gene) Johanson, a soft-spoken but effectively persevering promoter of the industrial potential in this area. He was one of the major participants, for example, in the negotiations which led to the location here of Chrysler's new Plymouth Assembly Plant.

Working directly with Mr. Johanson are G. J. Haven and Henry W. Heck, both industrial engineers.

Among the duties performed by Mr. Haven are making contacts with exist-

ing industry in the area to give aid with any specific problems which individual plants might have, and making special marketing surveys and studies of the Union Electric area.

Mr. Heck concentrates on work with industrialists who are interested in plant location in the area and is equipped to supply them with full information about the area in general or about specific factors in any part of the area.

The company's Industrial Development Department reports directly to

Merrill E. Skinner, vice president and director of sales.

In promoting the plant location factors here, the Union Electric I.D. group cooperates fully with the Chamber of Commerce of Metropolitan St. Louis and other agencies such as the development departments of the banks and the railroads.

An important part of Union Electric's efforts is a sustained and extensive advertising program in national media, pointing up the various factors which make the St. Louis area attractive to industry.

manufacturers record

THE NATIONAL MAGAZINE OF PLANT LOCATION NEWS

EXPANSION BRIEFS

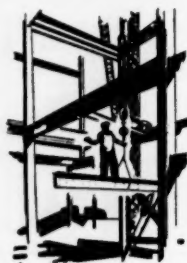
HENDERSON, N. C. Construction has just begun here on a new multimillion-dollar plant for Laurens Glass Works, Inc., of Laurens, South Carolina, producers of more than half a million glass containers daily. It is expected that the new facility will be in operation by summer and will have approximately 175 employees. Daniel Construction Company of Greenville, South Carolina, is the general contractor.

GRANTS, N. M. The Kermac Nuclear Fuels Corporation has opened its new 400-tons-a-day acid plant north of Grants. Built by the Western-Knapp Engineering Company, the unit cost \$1.5 million and is an integral part of Kermac's uranium mill at Ambrosia Lake.

ANAHEIM, CALIF. The Dixie Cup Division of American Can Company will expand its plant here by almost 40 per cent. To cost around \$1 million, the addition will have 112,500 square feet of manufacturing space. It will bring the total footage, for manufacturing, warehousing, offices and other purposes, to nearly 300,000 square feet. This marks the second expansion since the plant was originally opened in 1952. Myers Bros. Construction, Inc., of Los Angeles, is the general contractor.

PORTLAND, ORE. A new distribution center, to cost close to \$6 million, will be built here by Montgomery Ward & Company. It will serve the company's catalog and retail stores in Oregon, Washington, Idaho, Montana and Alaska. It is expected that the project will be completed this year.

DUNKIRK, IND. Ground was broken here recently for an extensive expansion of the Dunkirk Glass Container Plant of Armstrong Cork Company. When completed early in 1960, the addition will enlarge production capacity by 50 per cent and will boost employment from the present 800 to approximately 1,000.



NEW PLANT SUMMARY

BY DONALD V. QUINN

The following is a summary of major industrial plants reported to INDUSTRIAL DEVELOPMENT during the month of February, 1959, by industries and industrial development organizations in the United States, Canada, and territories.

Number of employees is indicated by the code: A (under 25); B (25-100); C (100-250); D (250-1,000); and E (over 1,000).

ALABAMA

Florence—Coca-Cola Bottling Co.; 502-514 S. Court St. In Oper. 42,000 Sq. Ft. (B)

ALASKA

No plants reported.

ARIZONA

No plants reported.

ARKANSAS

Berryville—Berryville Garment Co.; Children's clothes. Plans announced. (B)

Camden—Davis Machine Corp.; William L. Davis, Pres. Builds machines to Mfr. multi-wall bags used for fertilizer, chemical, and cement. Under Const. 16-acre site. (B)

Corning—Corning Pickle Co., Inc.; Sebald Stahl, Owner. Pickles. Est. date of Oper. July 1959. \$100,000. (B)

Ft. Smith—O.K. Processing Co.; Collier Wenderoth Jr., Pres. Chicken processing. Est. date of Oper. May 1959. (B)

Little Rock—J. A. Riggs Tractor Co.; J. A. Riggs, Pres. Caterpillar Tractor Dist. In Oper. \$750,000.

Magazine—Hinkle & Stevens Heading Co.; K. W. Hinkle, Mgr. Barrel heading. Est. date of Oper. March 1959. (B)

Sheridan—Sheridan Research, Inc.; M. W. Nunn, Pres. Specialized plastic items. Plans announced. (B)

Sheridan—Stamp-O-Matic Corp.; Vending Machines. Plans announced. (C)

Springdale—Frex N. Store, Inc.; Roland Ensley, Offl. Quick Freezing ice and Cold Storage. Plans announced. \$1 million.

CALIFORNIA

Berkeley—Staynor Corp.; 2531 Ninth St. Pharmaceutical and vitamin products. In Oper. \$1 million. 35,000 Sq. Ft.

Cloverdale—KVV California Mills, Inc.; Plywood. In Oper. \$1 million. (C)

El Segundo—Filon Plastics Corp.; David S. Perry, Pres. El Segundo Blvd. & Van Ness Ave. Fiberglass and nylon reinforced plastic Bldg. panels. Plans announced. \$1 million. 70,000 Sq. Ft. 9-acre site.

Fresno—Mayfair Pacific, Inc.; Windows. Plans announced. 30,000 Sq. Ft. (C)

Fresno—Tapee, Inc.; William C. Gow, Pres. Plastic parts for aircraft, guided missiles, digital computers, etc. Plans announced. 11,400 Sq. Ft. (B)

La Sierra—Ace Drill Bushing Co., Inc.; Alan A. Fisher, Pres. Pierce Ave. and Ridge Rd. Drill bushings and allied precision tools. Under Constr. \$250,000. 25,000 Sq. Ft.

Los Angeles—Coast Envelope Co.; Commercial envelopes. Est. date of Const. April 1959. 100,000 Sq. Ft. \$500,000.

Monrovia—G. M. Giannini & Co., Inc.; J. Murray Wilson, Ex. V. Pres. Mountain Ave.

Control instrumentation. Plans announced. 80,000 Sq. Ft. 11-acre site.

San Francisco—Chicago Pneumatic Tool Co.; Ind. Park #2A. Pneumatic Tool Distributors. Plans announced. 19,000 Sq. Ft. site. 6,000 Sq. Ft. office and Whse.

Sunnyvale—Lyon Van & Storage Co.; Bud Hathaway, Gen. Mgr. 296 Commercial, Packaging for missiles. Plans announced. 10,000 Sq. Ft. (B)

Wilmington—American Chemical Corp.; Ethyl chloride, ethylene dichloride, vinyl chloride, monomer, plastic polymers and copolymers, and chlorethylene compounds. Est. date of Oper. Jan. 1960. \$7.5 million.

Woodland—Kordite Corp.; Polyethylene bags. Est. date of Oper. July 1959. 30-acre site. (C)

COLORADO

Englewood—Stainless Equipment Co.; C. Victor Molitor, Pres. 2829 S. Santa Fe Dr. Designing and Mfg. restaurant Equip. Est. date of Oper. May 1959. 11-acre site. \$200,000. 19,000 Sq. Ft. (B)

CONNECTICUT

Old Saybrook—R. R. Donnelley & Sons Inc.; Printers. Plans announced. 30-acre site. \$Multi-million. (D)

DELAWARE

No plants reported.

DISTRICT OF COLUMBIA

Washington—H. W. Lay & Co., Inc.; Herman W. Lay, Pres. Eastgate Industrial Center. Bladensburg Rd. & Eastern Ave. (Prince Georges County, Maryland) Potato chips and snack foods. Est. date of Oper. June 1960. 50,000 Sq. Ft. \$900,000. (C)

FLORIDA

Boca Raton—Gillis Block and Supply Co.; W. D. Gillis, Pres. N. 20th St. Testing aggregates and finished blocks. In Oper. (B)

De Land—Brice Pulpwood Ind.; Carl Brice & A. F. Barrs, Partners. All-electric sawmill & chipping & debarking trees for pulpwood. Plans announced. 10-acre site. (B)

Dunnellon—Winder Aircraft Corp.; Dunnellon Airport. Electronic Equip. for aircraft. Plans announced. 345-acre site. (B)

Eustis—Consolidated Citrus Co.; Roland Wiygul, Pres. Fresh citrus fruit packing. In Oper. (B)

Ft. Lauderdale—Old Mac Ind., Inc.; John B. McGrath, Pres. Propane Gas-propelled golf carts & alum. iron lungs. Est. date of Oper. June 1959. 15,000 Sq. Ft.

Hialeah—Expander Corp.; David Hoppenstand, Owner. Automobile brakes. Plans announced. 10,000 Sq. Ft. (B)

Jacksonville—Rock City Box Sales; Charles F. Foster, Gen. Mgr. Folding cartons. Est. date of Oper. June 1959 (B)

Miami—U-Haul Co.; Trailers. Plans announced. 21,000 Sq. Ft. (B)

Orlando—Nubar Tool & Engineering Co., Inc.; Edward Nuber, Pres. Tools, dies, jigs, fixtures & designing. Plans announced. (B)

Orlando—Vulcan Materials; Lee Bailey, Offl. Concrete Pipes. Plans announced. 40-acre site. (B)

Sanford—Dynatronics, Inc.; Parker Painter, Pres. Hwy. 17-92. Electronics development and research. Est. date of Oper. June 1959. 10-acre site. (D)

Tampa—American Durox Corp.; Karl Lagnefors, Pres. Gas Concrete. Est. date of Const. early 1959. \$1.1 million. 55,000 Sq. Ft. (C)

Tampa—Jos. Schlitz Brewery; Erwin C. Uihlein, Pres. Beer. In Oper. \$20 million.

Wilton Manors—Aqua Gull Co.; Ken Mitchell, Plant Mgr. Fiberglass, wooden & combination boats. Plans announced. (C)

GEORGIA

Atlanta—Crown Cork & Seal Co., Inc.; John F. Connelly, Pres. Old U. S. 41 & Browns Mill Rd. Tin cans and crowns. (Metal bottle caps.) Under Const. 240,000 Sq. Ft. 40-acre site. (D)

Chamblee—U. S. Gypsum; C. H. Shaver, Ch. of the Bd. 4859 New Peachtree Rd. "Perf-A-Tape" joint cement for finishing wallboard, and the Mfg. of "USG Texture" paints. Plans announced. 20,000 Sq. Ft. (B)

Columbus—Liberty Coach Co., Inc.; Allen Spencer, Pres. Cusseta Rd. Trailers. Est. date of Oper. May 1959. 15½-acre site. \$400,000. (D)

HAWAII

No plants reported.

IDaho

Pocatello—J. R. Simplot Co.; Sulphuric Acid. Plans announced. \$1½ million.

ILLINOIS

Chillicothe—Chillicothe Garment Co.; Jack Shanahan, Gen. Mgr. N. 2nd Street. Women's ready-to-wear garments. Est. date of Oper. March 1959. 5,000 Sq. Ft. (C)

Elgin—Victor Mfg. & Gasket Co.; Wayne D. Neathery, Sec'y Treas. Oil seals. Plans announced. \$1¼ million 200-acre site. 200,000 Sq. Ft.

Glenview—Tempel Steel Co.; Tempel Smith, Pres. Milwaukee Ave. Magnetic steel laminations. Plans announced. (C)

Reading—American Home Products Corp.; Food Processing. Plans announced. 34-acre site. (B)

Skokie—Central Sheet Metal Products, Inc.; Linder Ave. Sheet Metal Products. Est. date of Constr. Feb. 1959. 52,000 Sq. Ft.-site. (B)

Wheaton—Hitchcock Publishing Co.; Geneva Rd. Printing and Publishing. In Oper. \$350,000.

INDIANA

Eaton—Douglas-Eaton Furniture Corp.; Furniture. In Oper. \$250,000. (C)

Evansville—Shane Mfg. Co., Inc.; Norman A. Shane Sr., Pres. 1501 W. Franklin St. Boys' clothing. Plans announced. 50,000 Sq. Ft. (C)

Gary—National Steel Corp.; Thomas E. Millsop, Pres. Steel finishing mill. Plans announced. \$300 million. (E)

Indianapolis—Hazeltine Corp.; Weir Cook

NEW PLANTS

Airport. Military and non military electronic devices. Plans announced. (D)

Kendallville—Kendall Ind., Inc.; Small automotive parts. Est. date of Oper. May 1959. (C)

Springfield—Rieth-Riley Const. Co.; U. S. Road 20. Road surfacing materials. Plans announced. 7-acre site. (B)

IOWA

Algona—Weidenhoff Corp.; Ken T. Pierce, Offl. Snap-on-tools. Est. date of Oper. Sept. 1959. (B)

Ames—Bourns Laboratories, Inc.; Dick Caddock, Offl. Trimpots, potentiometers, transducers. Est. date of Oper. Aug. 1959. (B)

Centerville—Carter Waters Corp.; Haydite Products. Est. date of Oper. Aug. 1959. \$300,000. (B)

Cherokee—Lundell Mfg. Co.; Phyllis Hamilton, Pjb. Rel. Flail Type Harvesters. Est. date of Oper. May 1959. (B)

Clinton—Climax Engines Mfg.; Heavy Duty industrial engines. Est. date of Oper. July 1959. (B)

Clinton—Clinton Garment Co.; R. J. Stapelton, Plant Offl. Dresses. Est. date of Oper. Summer 1959. (B)

Council Bluffs—Griffin Wheel Corp.; S. C. Prest, Pres. Pressure pipe for water, gas and oil transmissions. Est. date of Oper. early 1960. (B)

Fairfield—Flash Maid Mello Freez; Robert Jester, Offl. Frozen Milk Mfg. Est. date of Oper. Aug. 1959. (B)

Gilman—Buerkens Corp.; Wood wagon boxes, and steel flare boxes. Plans announced. 27,000 Sq. Ft. (D)

Monticello—Energy Mfg. Co.; Dick Landis, Offl. Hand Tools. Est. date of Oper. Sept. 1959. (B)

Pella—Rolscreen Co.; P. J. Kuyper, Pres. Windows and folding doors. Est. date of Oper. Aug. 1959. \$400,000. (C)

Waverly—Hawkeye Ind. Inc.; Crop dryers and grain conditioning equip. Plans announced. (B)

KANSAS

Bonner Springs—Nordex of Kansas, Inc.; Guy Stanley, Jr. & Emmett P. Conlan, Owners. Precast concrete duct. Plans announced. (B)

Galena—Galena Mfg. Co.; Gordon M. Turner, Owner. 218 Main Street. Men's & boys' shirts, boys' boxer pants, girls' treads, ladies' & girls' blouses. Est. date of Oper. March 1959. (B)

La Crosse—Wilk-Han Steel Span Co.; Fabrication plant. Produce and sell farm bldgs. Plans announced. (B)

Topeka—Fleming Co.; Ned N. Fleming, Pres. Westgate Ind. Dist. Grocery wholesale. Plans announced. 230,000 Sq. Ft. 38.7-acre site. (C)

KENTUCKY

Corbin—Corbin Aluminum Ind., Inc.; Ralph Reasor, Pres. Aluminum windows, doors, and awnings. Est. date of Oper. Feb. 1959. (B)

Fulton—Ferry-Morse Seed Co.; Seed processing. Plans announced. \$1 million. (D)

Glasgow—Joe O. Frank Co.; Poultry processing. Est. date of Oper. June 1959. \$500,000. (B)

Lexington—Auto Die Co.; Precision tools and light stamping machines. Plans announced. \$400,000. (B)



● Gulf States service area comprises 28,000 square miles extending along the Texas-Louisiana Gulf Coast.

OUR company commands 33 years of diverse experience in providing electric service to a variety of top industries which have located in this prosperous, fast-growing area. Among some of the more important industries are oil, chemicals, rubber, sulphur, lumber, paper, aluminum and steel fabrication.

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Lake Charles, Louisiana; Beaumont, Port

Arthur and Navasota, Texas.

40

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angles to the pieces and can form or flange them to special shapes as required. The items here shown are typical of hundreds we have furnished to other manufacturers during nearly a half century of successful experience.

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Perforated Metal, spot-welded to specially formed angles.

DIAMOND MANUFACTURING CO., WYOMING PENNA.
(Wilkes Barre Area)

New Bulletin No. 51, Describes DIAMONTEX Perforated Metal Lay-in Panels for Modern Acoustical Ceilings.

NEW PLANTS

Louisville—The Mead Corp.; D. F. Morris, Pres. Corrugated shipping containers. Plans announced. 354,356 Sq. Ft. 38-acre site.

Owensboro—Dewey & Almy Chemical Co.; Organic-chemicals. Est. date of Oper. Early 1959. \$4 million. (C)

Russell Springs—Russell Springs Mfg. Corp.; Robert Dunmoyer, Gen. Mgr. Men's sport shirts. Est. date of Oper. June 1959. (C)

LOUISIANA

New Orleans—Owens-Illinois Glass Co.; J. P. Levis, Ch. of the Bd. Chef Menteur Hwy. Bottles and Jars. Plans announced. 24-acre site. \$3 million. (D)

MAINE

Houlton—Houlton Footwear, Inc.; Shoe Mfg. Plans announced. (C)

Saco—Lunder Shoe Products Co., Inc.; Jerome Gillis & Leonard Lunder, Offs. Shoe findings, bows & stripping, covered buttons. In Oper. 12,000 Sq. Ft. (B)

Waterville—Robert G. Fromkin Ind.; Robert G. Fromkin, Offl. Yarn. In Oper. (C)

Waterville—Waterville Processing Co.; Yarn. In Oper. (C)

MARYLAND

Baltimore—American Bank Stationery Co.; J. W. Sheridan, Pres. Pulaski Hwy. Ind. area. Offset and letterpress printing, plate making, steel die engraving, check imprinting, gold stamping and bindery operations. In Oper. \$750,000. (D)

Clarksville—W. R. Grace & Co.; J. Peter Grace, Pres. Chemical research. In Oper. \$5 million. 94,000 Sq. Ft. 150-acre site.

Cockeysville—Veneers, Inc.; John A. Williamson, Pres. Domestic lumber and foreign face-veneers. In Oper. 30-acre site. 18,000 Sq. Ft. (B)

Laurel—Modern Electrical Supply Co. Inc.; Hyman Bernstein, Pres. Lighting fixtures. In Oper. 23,000 Sq. Ft.

Marley Neck—Kennecott Refining Corp.; I. G. Pickering, Proj. Mgr. Electrolytic copper refinery. Under Const. \$30 million. 107-acre site. (D)

Sparks—Diecraft, Inc.; Harry A. Dundore, Pres. Precision metal fabricating. In Oper. \$1 million. 100,000 Sq. Ft. 19-acre site. (D)

Timonium—Electronic Communications, Inc.; Dr. Donald D. King, V. Pres. York Rd. Electronic Military Equipment for the Armed Forces. Research on electronic and infra-red warfare systems, signal detection and analysis, millimeter wave techniques, antennas and electronic countermeasure equipment. In Oper. 7-acre site.

Timonium—Fawn Plastics Co., Inc.; Robert D. Brickett, Pres. Injection molded plastic components for Mfg. of radios, electronic apparatus, aircraft instruments and allied products. In Oper. 10,000 Sq. Ft.

Timonium—Hoover Electronics Co.; H. W. Hoover, Jr., Pres. Baltimore-Harrisburg Expressway. Engineering and research. Makes printed circuit assemblies, and light metal. In Oper. \$1.5 million. 8½-acre site.

Towson—Shell Oil Co.; Harold S. Eustis, Mgr. 200 E. Joppa Rd. Marketing Hqtrs. for Md., D. C., Va., N. C., parts of Tenn., Ky., W. Va., Penna., and Del. In Oper. 2-acre site. 21,000 Sq. Ft.

Towson—Young and Selden Co.; Baltimore County Beltway. Mfg. of bank stationery. Est. date of Oper. late summer 1959. 5-acre site. \$825,000.

MASSACHUSETTS

Auburn—Eastern Bridge Co., Inc.; Fabrication Steel. Est. date of Oper. June 1959. 15,000 Sq. Ft. (B)

Canton—Plymouth Rubber Co.; Rubber Products. Est. date of Oper. Feb. 1959. 50,000 Sq. Ft. (D)

Fall River—Marscot Plastics, Inc.; Duncan Scott, Pres. Boats. Bldg. Purchased. 33,000 Sq. Ft. (C)

Greenfield—Greenfield Components Corp.; Francis J. Sweeney, Pres. Glass-to-metal seals for transistors used in TV Communications Equip., telephones, and radios. Also guided missiles. Est. date of Oper. March 1959. (C)

Lawrence—Melanite Corp.; High pressure melanite decorative leninate plastics. Est. date of Oper. June 1959 (C)

Lexington—Raytheon Mfg. Co.; Charles F. Adams, Offl. Electronics. Est. date of Oper. Late 1960. 100,000 Sq. Ft. (D)

Lowell—C. B. S. Hytron Co.; Robert Marchisio, V. Pres. Electronics. Plans announced. (D)

Medford—Grabler Mfg. Co.; Pipe fittings. Est. date of Oper. March 1959. 15,000 Sq. Ft. (A)

North Adams—Modern Anodizing Corp.; Coats aluminum to protect it against corrosion. Est. date of Oper. April 1959. 25,000 Sq. Ft. (B)

Southbridge—Southbridge Finishing Co.; Plastic Sheetings. Est. date of Oper. June 1959. (C)

Taunton—Reed & Barton Co.; Roger H. Halliwell, Pres. Silverware products. Est. date of Oper. March 1959. 13,000 Sq. Ft. (D)

Waltham—Arthur A. Crafts Co., Inc.; Roger W. Histon, Pres. Precision tools. Plans announced. 30,000 Sq. Ft. (C)

Waltham—Sylvania Electronic Systems; Henry Lehne, Gen. Mgr. Fabrication Assembly Works. Est. date of Oper. March 1959. 30,000 Sq. Ft. (C)

Worcester—Kear-Weld Co., Inc.; John F. Kenney, Pres. Welders Supplies. Est. date of Oper. Feb. 1959. 10,000 Sq. Ft. (B)

MICHIGAN

Ann Arbor—Micrometrical Mfg. Co.; Southbelt Expressway & S. State Rd. Precision measuring Equip. Plans announced. 30,000 Sq. Ft. (B)

Dearborn—Ford Motor Co.; Henry Ford, II, Pres. Improve Steel-making facilities. Plans announced. \$35 million.

Detroit—Great Lakes Steel Corp.; W. D. MacDonnell, Pres. 80-inch strip mill. Plans announced. \$100,000,000. (D)

Grand Rapids—Grocers Dairy Co.; George Cope, Gen. Mgr. Milk Processing. In Oper. \$1.5 million. (B)

L'Anse—Upper Peninsula Power Co.; Steam and Power. Est. date of Oper. Aug. 1959. \$5 million.

L'Anse—Celotex Corp.; Fiberboard (Insulation board). Est. date of Oper. Fall 1959. 500,000 Sq. Ft. (C)

Muskegon—Brunswick - Balke - Collender Co.; B. Edward Bensinger, Pres. Pinsetting machine Mfg. Plans announced. \$2 million. (D)

Tecumseh—Thornton Products Co.; Joseph Weyn, Pres. Light metals, chemicals, and car parts. Plans announced. 10-acre site.

Tecumseh—H. W. Tuttle Co.; H. W. Tuttle, Jr., Ex. V. Pres. Electrical heating elements for frying pans, dryers, and water heaters. Plans announced. (B)

MINNESOTA

Pine Bend—Minnesota Chemicals, Inc.; Sulphuric acid. Plans announced. \$1½ million. 10-acre site. (B)

MISSISSIPPI

Durant—Durant Sportswear, Inc.; Men's and boys' sportswear. Est. date of Oper. May 1959 (D)

Gulfport—Old Mac Industries; John B. McGrath, Prtnr. Fabricated Metal Products. Est. date of Oper. April 1959. \$150,000. (C)

New Albany—Laher Spring and Tire Corp.; Automobile-type springs, batteries, brake linings, and electric carts (Golf, airport, industrial use). Est. date of Oper. Fall 1959. \$1 million. (D)

Pascagoula—Gulf Vitamin Products Inc.; Canned food. Est. date of Oper. March 1959. (B)

Purvis—Kaiser Aluminum & Chemical Corp.; Carbon Electrodes. Est. date of Oper. Oct. 1959. \$500,000. (B)

Tupelo—Custom Bedding Co.; O. C. Owens, & W. C. Cook, Owners. Padding for quilts and furniture. Est. date of Oper. May 1959. (B)

Tupelo—Pennsylvania Tire Co. of Mansfield, Ohio; Bernie Smith, Gen. sales Mgr. Automotive tires. Est. date of Oper. Early Fall, 1959. \$1.5 million. (D)

Tupelo—Scarsdale Quilting Mills; Quilting. Est. date of Oper. Spring 1959. (B)

Vicksburg—Mississippi Valley Portland Cement Co.; Robert W. Hyde Jr., Pres. Cement. In Oper. \$Multi-million. 1,130-acre site.

MISSOURI

No plants reported.

MONTANA

Polson—Dupuis Bros. Lumber Co.; Edwin Dupuis, Pres. Lumber. Plans announced. (B)

NEBRASKA

No plants reported.

NEVADA

Wells—Boeing Airplane Co.; Three-stage "Minute-Man" Missiles. Plans announced. (D)

NEW HAMPSHIRE

Nashua—Plastics Tube and Bottle Inc.; Henry E. Griffith, Pres. Milford Rd. Rt. 101A. Squeeze-to-use plastic tubes and bottles. In Oper. (D)

NEW JERSEY

Cresskill—Hoke, Inc.; Dr. Wilbur Teeter, Pres. Salmon Rd. Fluid control equipment, mfg. products for nuclear, guided missile, aircraft and naval installations. In Oper. 13-acre site.

Elizabeth—Pharmacaps; Jefferson Ave. and Virginia St. Vitamins. Under Const. (B)

Freehold—Precision Filament, Inc.; Harold Wilcox, Pres. 89 Bannard St. Mfrs. filament "Heaters" for television, radio and electronic tubes. In Oper. (B)

Newark—Dixon Chemical Industries, Inc.; Aluminum sulfate plant. Plans announced. \$2 million.

Paulsboro—Dixon Chemical Industries, Inc.; Sulphuric Acid. Under Const. \$5 million.

Wayne—Union Carbide Co.; Sylon Plant, Mfg. base for sheet plastics. Under Const. 150,000 Sq. Ft. (D)

NEW MEXICO

Albuquerque—Del E. Webb & Assoc.; De. E. Webb, Pres. 14 story office Bldg. Est. date of Oper. Spring 1960. \$3½ million.

Albuquerque—Rio Grande Steel Products Inc.; Walter T. Jones, Pres. 1710 6th St. NW. Structural steel fabrication. Est. date of Oper. Dec. 1959. \$500,000.

Albuquerque—Willard Kruger & Assoc.; Willard Kruger, Pres. New 14 story office Bldg. Est. date of Oper. 1960. \$4 million.

NEW YORK

Rochester—Roehlen Engraving Works; Hans S. Vohs, Pres. Jefferson Rd. Engraved embossing rolls and plates for putting surface patterns on plastic, aluminum, steel, paper, leather, etc. Plans announced. 12-acre site. 40,000 Sq. Ft. (B)

Rye—Avon Products; Midland Ave. Cosmetics and perfumes. Under Constr. Est. date of Oper. 1960. (D)

NORTH CAROLINA

Carrboro—The BVD Co., Inc.; Undergar-Carrboro—The BVD Co., Inc.; Under garments. Plans announced. (C)

Chapel Hill—Jeffene Corp.; knitting, dyeing and bleaching of cotton cloth. In Oper. (D)

Charlotte—Industrial Metal Treating Corp.; William R. DeVita, Pres. 1201 West Morehead St. Precision heat treating facility. In Oper. (B)

Charlotte—Lockhart Mfg. Co.; Hollow steel door frames for schools, commercial and industrial buildings. Plans announced. (B)

Farmville—Farmers Cooperative Exchange; Poultry & Livestock feed. Plans announced. (B)

Fayetteville—Cape Fear Industries, Inc.; J. Bernard Stein, Pres. Metal stamping. Plans announced. \$750,000. (D)

Gastonia—Craftspun Novelty Yarn Co.; Yarn. Plans announced. (B)

Hickory—General Electric Co.; Electrical Products. Plans announced. (E)

High Point—Prins of High Point, Inc.; Mobile homes. Plans announced. (B)

Lenoir—Clarandue Metal Products Corp.; E. Carl Anderson, Pres. Component metal parts for the state's furniture industry. Plans announced. (C)

Lincolnton—Consolidated Knitting Mills, Inc.; Terry cloth rib and jersey. Plans announced. (B)

Lincolnton—Gibbs Underwear Co.; Underwear. Est. date of Oper. Aug. 1959. 48,000 Sq. Ft. (D)

Maiden—Fair Maid Mills, Inc.; Coarse Cotton & Synthetic yarns. Plans announced. (B)

Monroe—Acme Metal Etching Co.; Metal etching. Plans announced (B)

Mount Airy—Mount Airy Hosiery, Inc.; Floyd S. Pike, Pres. Lovell St. Hosiery. Under Constr. (D)

Norwood—United Mills, Corp.; Textiles. Plans announced. (C)

Raleigh—Atlas Steel Products Co.; Storage Tanks. Plans announced. (B)

Rose Hill—Robert's Egg Sales; Norman O. Roberts, Owner. Egg Processing. Plans announced. (B)

Shelby—Pittsburgh Plate Glass Co.; Glass. Est. date of Oper. March 1959. \$Multi-million. 350,000 Sq. Ft.

NEW PLANTS

Stanfield—Midland Knitwear Mills; Norman Guthrie, V. Pres. Women's polo shirts. In Oper. (B)

Taylorsville—Broyhill Furniture Factories; Furniture, chairs. State Hwy. 90. Plans announced. 90,000 Sq. Ft. 100-acre site. \$400,000. (D)

Wilmington—Southern Laces, Inc.; N. 23rd St. Lacing. Under Const. \$400,000. (D)

NORTH DAKOTA

Bismarck—Ace Potato Co.; Al Cieslak, Plant Offl. Potato Processing. In Oper. (B)

Fargo—Northern Products Co., Inc.; H. G. Ellenbus, Plant Offl. Automotive Chemicals. In Oper. (B)

Lansford—Gunning Mfg. Co.; Elton Person, Plant Offl. Field Sprayers, pick up truck bumpers. In Oper. (B)

OHIO

Bellaire—H. H. Phillips Stamping Co.; Tools and dies. In Oper. (C)

Brecksville—Cities Service Oil Co.; Oil storage and distribution ctr. Plans announced. \$700,000.

Cleveland—Cleaners Hanger Co.; W. 160th St. & Puirtas Rd. S.W. Cleaners' Hangers. Under Const. \$375,000. 47,000 Sq. Ft.

Columbus—August Wagner Breweries Inc.; Carl Wagner, & Alex Hostettler, Plant Offls. Bottling House. Under Constr. \$350,000.

Conneaut—Conneaut Rubber Products Co.; Hans Wagner, Willard Snyder, Partners. 607 Sandusky St. Foam rubber pillows. In Oper. (B)

Dayton—Dayton Etched Products Corp.; Frank Deits, Gen. Mgr. Metal name plates, dial panels, trims and decorations for various producers. Plans announced. \$300,000. (D)

Dunkirk—Peerless Gear & Machine Co.; 140 E. Wayne St. Gears and Machines. Plans announced. \$250,000. (C)

Logan—William Wallace Co.; Howard B. Scott, V. Pres. and Treas. Route 75. Mfg. of gas vent pipe and all-fuel chimney. Plans announced. \$750,000. (B)

Piqua—Piqua Municipal Light Plant; Nuclear Reactor to pipe steam produced by nuclear energy to the light plant. Plans announced. \$1 million.

Springfield—Cascade Mfg. Co.; Robert Warren, Pres. Hydraulic products for material handling equip. firms. Makers of fork-lift trucks for industrial duty. Plans announced. (C)

Stow—Morgan Adhesive Co.; Burton D. Morgan, Pres. Basic adhesive products. Plans announced. \$300,000.

OKLAHOMA

Laverne—Sun Oil Co.; J. P. Hendrix, Plant Supvr. Process Gas. Under Const. Est. date of Oper. July 1959. \$3½ million.

Oklahoma City—Western Electric; Dial switching equipment for telephone exchanges. Under Const. Est. date of Oper. 1961. 1,300,000 Sq. Ft. (E)

OREGON

Beaverton—Lemery Industries, Inc.; Kenneth Catto, Mgr. & Engr. 8136 S.W. Berth Beaverton Hwy. Telephone answering devices. Est. date of Oper. June 1959. (B)

Beaverton—Powermaster Inc.; Rege A. Ott, Pres. Automotive parts. Under Const. \$350,000. 3½-acre site. 60,000 Sq. Ft. (C)

Centralia—Cardinal Doors, Inc.; Flush doors. Plans announced. (B)

Portland—Montgomery Ward & Co.; H. W. Willsey, Dist. Mgr. Distribution center for catalogue and retail stores in the northwestern states. Plans announced. \$Multi-million.

PENNSYLVANIA

Boyetown—Teleflex Co.; Machine parts. Plans announced. (B)

Dublin—Kollsman Motor Corp.; Special purpose precision motors. Plans announced. (C)

Lansdale—Met-Pro, Inc.; Material Handling equipment. Plans announced. (B)

Leesport—Birch Hill Foundries, Inc.; Rt. 122. Iron castings for electrical conduits. Plans announced. 60-acre site. \$500,000.

Lehighton—C. C. Kurland, Inc.; Boilers. Under Constr. (B)

Mars—American Valve Reconditioning Co.; Reconditioning valves. Plans announced. (B)

Norristown—Philadelphia Gear Corp.; Montgomery Ave. Schuylkill Expressway. Penna. Turnpike. Ultra-precision and industrial gearing, speed reducers, fluid mixers, and limitorque valve controls. Under Constr. 180,000 Sq. Ft. 30-acre site. \$1 million. (D)

St. Clair—Clair Fashion Inc.; Richard Fiorillo, Mgr. Second and Franklin Sts. Dresses. Est. date of Oper. March 1959. (B)

PUERTO RICO

Bayamon—Las Palmas Mfg. #2; Knitted Gloves. Plans announced. (B)

Caguas—Dorado Leather Corp.; Laminated embroder & decorate leather. Plans announced. (B)

Fajardo—Cameo Lingerie; Panties. Plans announced. (B)

Guayama—Guayama Children's wear; Children's dresses. Plans announced. (B)

Morovis—Esco Corp. #2; Billfolds. Plans announced. (C)

San Juan—Marjo Plastics Corp.; Plastic shoe heels. Plans announced. (B)

RHODE ISLAND

Coventry—Hoechst Chemical Corp.; Dr. Harry W. Grimmel, Pres. 129 Quidnick St. Industrial & Pharmaceutical Chemicals. Est. date of Oper. early 1960. (C)

SOUTH CAROLINA

Catawba—Bowater Paper Corp. Ltd.; August B. Meyer, Pres. Pulp for paper products. Est. date of Oper. Aug. 1959. \$38 million. (D)

Charleston—Gulf Oil Corp.; Dr. Jerry McAfee, V. Pres. Oil Refinery. Plans announced. \$Multi-million.

Greenville—Carolina Blouse Co.; Max Shore, Pres. Laurens Rd. Women's blouses. Under Const. \$750,000. 133,000 Sq. Ft. (E)

Heath Springs—Heath Springs Mfg. Co.; C. E. Robb, Plant Mgr. Children's clothes. Est. date of Oper. May 1959. \$100,000. 21,000 Sq. Ft. (C)

Laurens—Firth Carpet Co.; Carpets. In Oper. (D)

Laurens—LOF Glass Fibers Corp.; Glass fibers. Est. date of Constr. March 1959. (E)

SOUTH DAKOTA

No plants reported.

TENNESSEE

Alton Park—The Southern Chemical Cotton Co.; W. Donald Munson, Pres. Manufacture low density type paper for Ind. applications. Plans announced. Oper. late 1959.

Chattanooga—No-Sag Spring Co.; Harold Nye, Mgr. Metal Springs. Est. date of Oper. Feb. 1959. (B)

Chattanooga—Vulcan Materials Co.; W. B. Hamilton, Plant Mgr. 23rd St. Ready mix concrete. In Oper. (B)

Cookeville—Southern Furniture Mfg. Co.; Mr. and Mrs. Albert Maxwell, Owners. Furniture. In Oper. 22,000 Sq. Ft. (C)

Humboldt—Alton Box Board Co.; Clarke D. Thornton, Mgr. Corrugated and solid fiber boxes, folding cartons, set-up boxes and paperboards. Plans announced. (B)

Memphis—DuPont; T. D. Bell, Plant Mgr. Hwy. 51. Sodium and Chlorine. In Oper. \$Multi-million. 250-acre site. (C)

Morristown—New Line Corp.; Clyde Pope and George N. Smith, Ptnrs. Wood furniture. Plans announced. 12,000 Sq. Ft. (B)

Union City—Transcold Co.; Miles Ave. Refrigerator units for trucks. Under Const. (C)

TEXAS

Brenham—Sealy Mattress Co.; Ernest Wuliger, Pres. Hwy. Loop 283. Mattresses. In Oper. \$300,000. 46,000 Sq. Ft.

Edna—Sunray Mid-Continent Oil Co.; L. G. Roberts, Gen. Mgr. Process gas, produce propane, isobutane, normal butane and natural gasoline. Est. date of Oper. March 1959. \$600,000.

Galena Park—United States Gypsum Co.; Building materials—plaster, gypsum boards, wallboards, and sheathing. In Oper. \$12 million.

High Island—United States Sulphur Corp.; Harry T. McClain, Pres. Produce sulphur. In Oper. \$1 million. (B)

Houston—Armour & Co.; John B. Teel, Dist. Mgr. Meat processing. Under Const. 25-acre site.

Houston—Devoe & Reynolds Co. Inc.; Doran S. Weinstein, Pres. 6767 Kirbyville Rd. Mykawa Industrial District. Paint mfg. plant. In Oper. \$ million. 9-acre site. 20,000 Sq. Ft.

Houston—Reichhold Chemicals, Inc.; Don Leever, Div. Dir. Resins, alkyls, polyesters and emulsions for paint, aircraft, petroleum, boat and housing industries. Est. date of Oper. mid 1959. 20-acre site. \$1 million.

Hurst—Anchor Metals, Inc.; Clyde F. Mooney, Pres. Fabricates galvanized steel transmission structures for electric utility industry. Est. date of Oper. May 1959. \$875,000. (D)

Levelland—Beaumont Mfg. Co.; Assembles therapeutic vibrators. Plans announced. (B)

Rockport—Pay Petroleum; R. R. Dean, Pres. Extracts a mixed stream of propane, normal butane, isobutane and natural gasoline. Est. date of Constr. March 1959. \$1.5 million.

Waco—Precision Engineering Co.; Industrial Dist. Precision Tools. Est. date of Oper. April 1959. (C)

UTAH

No plants reported.

VERMONT

No plants reported.

NEW PLANTS

VIRGINIA

Buena Vista—Hermitite Corp.; Ernest H. Oliver, V. Pres. Paper converters and packaging material. Under Const. 20-acre site. \$1 million.

Hollins College—International Telephone and Telegraph Corp.; Kenneth R. Stephens, Mgr. Electronic tubes—traveling wave tubes and image storage tubes for both military and civilian uses. Est. date of Oper. March 1959. (C)

Lynchburg—Martinsburg Veneer Co.; Face Veneer. Est. date of Oper. April 1959. 45,000 Sq. Ft.

Petersburg—Jeansco, Inc.; D. R. Burkhalter, Plant Engr. Dungarees. In Oper. (C) Roanoke—Double Envelope Co.; Envelopes. Est. date of Oper. April 1959. \$500,000.

Vinton—Hill Packing Co.; Horsemeat packing plant. Plans announced. (B)

Williamsburg—Dow Chemical Co.; Arthur E. Young, Gen. Mgr. Synthetic textile fiber. In Oper. 600-acre site. \$10 million. (D)

WASHINGTON

Moxee—Yakima-Western Sportswear Inc.; Elmer Erickson, Pres. Men's and boys' sportswear. Est. date of Oper. March 1959. 12,000 Sq. Ft. (B)

Roslyn—Shoemaker Mfg. Co.; F. W. Shoemaker Jr., Pres. Registers and grilles for air conditioners and heaters. In Oper. (B)

WEST VIRGINIA

No plants reported.

WISCONSIN

Cassville—Wisconsin Power and Light Co.; Carl J. Forsberg, Offl. Generating station. Plans announced. \$7,900,000.

WYOMING

Casper—Pacific Power & Light Co.; V. Hoover, Div. Mgr. Electric Power. Est. date of Oper. Oct. 1960. \$20 million.

Casper—Western Oil Tool Co.; Harry Reebe, Mgr. Fiberglass boats, aluminum trailers. In Oper. (B)

CANADA

ALBERTA

Calgary—Consolidated Mining & Smelting Co. of Canada Ltd.; Urea. In Oper. \$5 million.

BRITISH COLUMBIA

New Westminster—Sherwin-Williams Co.; Paint. Plans announced. 50,000 Sq. Ft.

ONTARIO

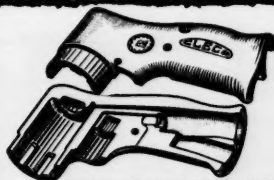
Etobicoke—Romac Products Co. Ltd.; 33 Jutland Ave. Injection-moulded plastic items such as products identity plates, point-of-purchase displays, automobile dealer identity plates, swizzle sticks and promotional giveaways. Also plated nameplates. Plans announced. 10,000 Sq. Ft.

Hamilton—American Can Co. of Canada, Ltd.; G. H. McVean, V. Pres. Container tops and bottoms. Est. date of Oper. Late 1959. 200,000 Sq. Ft. (D)

Leaside—Gibson Greeting Cards Ltd.; (Subs. of the Gibson Art Co.). Mr. Holden Crane, V. Pres. and Gen. Mgr. Greeting Cards. Plans announced. 30,000 Sq. Ft.

May, 1959

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NEW PLANTS

London—Northern Electric Co. Ltd.; Telephone sets of all types, and associated products. Under Const. (D)

Scarborough—Victor Heating Ltd.; Ellesmere Rd. Mfrs. ductwork and contracts for heating and air-conditioning installations. Plans announced. 3-acre site.

Toronto—Columbia Metal Rolling Mills Ltd.; McCulloch Ave. & Enterprise Rd. Steel roof deck and insulated metal panel walls. Under Const. Est. date of Oper. June 1959. 1¼-acre site. 15,000 Sq. Ft.

Toronto—IMCO Container Ltd.; 207 Queen's Quay. Plastic squeeze bottles for cosmetics, toilet preparations, and industrial application. Under Constr. Est. date of Oper. June 1959. 3-acre site. 13,000 Sq. Ft. (B)

Toronto—Universal Sections and Mouldings Ltd.; 100 Canadian Rd. Cold roll forming of ferrous and non-ferrous metals. Plans announced. 24,000 Sq. Ft.

OTHER COUNTRIES

Argentina—Coma Dora Rivadaves. Texas Butadiene and Chemical International, Ltd.; John D. Fennebresque, Pres. Petro-chemical and synthetic rubber complex. Plans announced. \$40 million.

Australia—Ballarat. Australian Timken Proprietary Ltd.; D. A. Bessmer, Ex. V. Pres. Roller bearings. Est. date of Oper. April 1959. 36,000 Sq. Ft.

France—Paris. National Cash Register Co.; General purpose accounting machines and adding machines. Under Const. (D)

Ireland—County Offaly. A. O. Reynolds Co.; Arthur Willis, Gen. Mgr. Product unknown. Plans announced.



A new 8-story addition to Kodak Research Laboratories in Rochester, N. Y. is shown here in architect's sketch. Dr. C. J. Staud, research vice-president, said the building will provide approximately 195,000 sq. feet of space to house the physics division of the laboratories. The building is expected to be ready for use in 1961.



PLASTICS

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CONSTRUCTION NEEDS

The most complete line of plastics in the Southeast

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Plexiglas — Cellulose Acetate —

Nylon — Teflon — Formica —

Polyethylene

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Complete supplies for the Fiberglass Reinforced Polyester Industry.

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Piling, Poles, Lumber, Cross Arms,
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Also Penta- and Salt-Treated Lumber

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American Creosote Works, Inc.
New Orleans, La.

Plants at Pensacola, Fla.; Sildell, La.; Winnfield, La.;
Louisville, Miss.; Jackson, Tenn.



John Fraker of Houston

Fraker Is Named A.I.D.C. President

MONTREAL. John Fraker, manager of the Industrial Department, Houston Chamber of Commerce, has been elected president of the American Industrial Development Council. He was named to the post during the 34th annual meeting of the council which was held here recently.

Other officers are Bill Davlin, secretary of the Pennsylvania Department of Commerce, first vice president; Mel Peach, executive assistant of the New England Council, second vice president, and Tom Finney, of the First National Bank of Dallas, treasurer. J. Huber Denn of Newark, Del., is secretary.

Directors are: New England District 1: Bob Lee of Connecticut Power and Light, and Mel Peach.

Mid-Atlantic District 2: Bill Gordon, Port of New York; DeWayne Nelson, Middlesex County, N. J., Bill Davlin.

Southeast District 3: Lou Purdey, lower Virginia Peninsula and Paul Miller, Atlanta.

North Central District 4: Doug Wells, Chicago Association of Commerce; Roy Hartman, Cleveland Electric Illuminating Company, and Gene Cermak, Chicago and Northwestern Railroad.

South Central District 5: Tom Martin, Gulf, Mobile and Ohio Railroad.

District 6: Rod Selby, First National Bank of St. Paul.

Southwest District 7: John Fraker and Tom Finney of the Dallas First National Bank.

Rockies District 8: J. A. (Buck) Buchanan, Wyoming.

Pacific District 9: Steward Neel, Puget Sound Power and Light and Lou Holland of San Francisco Chamber of Commerce.

Canada: Murray Elder, Windsor, Ontario.



why "reference value?"

IF you sell a service or a product to firms establishing new plants, your advertising program will fall short if it lacks *reference value*—the potential for presenting your message again and again, even years after your ad was inserted.

Reference value is vital in this field of selling because new plant location is inherently a slow process. Normally, it takes about three years from start of planning to actual operation.

To get maximum results, you want a medium that is kept on file and consulted throughout the planning period. You want to place your message right in that confidential file drawer where the planning data is assembled.

Are you now getting this type of reference value? Ask these questions about each medium you consider:

1. Is the publication easily filed? Will it fit into a standard file folder? Is it bulky?
2. Will the publication be filed in the right place? Does its title automatically suggest to the file clerk where it should go?
3. Will the publication be filed intact (with ads) or will editorial material be clipped, with ads going into a wastebasket?
4. What proportion of the content deals with industrial planning? (The more extraneous material, the lower the reference value.)

These are just a few of the factors which deserve serious consideration.

If you plan accordingly, your advertising messages will serve you not just today, but tomorrow and the day after.

Industrial Development

and manufacturers record

first in Industrial Development since 1882

This new KINNEAR DOOR GUIDE Can Cut Costs at Every Opening



KINNEAR Steel Rolling Doors — with the coiling upward action of the famous interlocking-steel-slat curtain (originated by Kinnear). They save space, save time, provide all-metal protection.

KINNEAR Rolling Fire Doors — the exclusive, all-steel "Akbar" doors, famous for positive starting action, safe closing speed, other advanced features.

KINNEAR Steel Rolling Grilles — the protective openwork of steel bars and links with coiling upward action. Admits light, air, and vision when closed — but blocks all intruders.

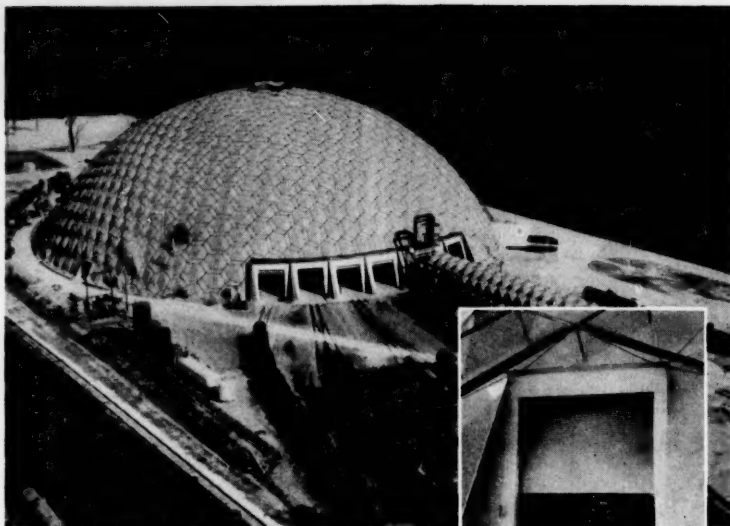
KINNEAR Motor Operators — Special, rugged, heavy-duty motors that add time-saving push-button control to the many other advantages of upward-acting doors.

KINNEAR Bifold Doors — Heavy-duty service doors of wood or all-steel. Center-hinged to fold upward with easy jack-knife action.

KINNEAR Rol-Top Doors — Sectional doors (wood or all-steel) available paneled for glass in any number of sections.

**Write today for this complete
up-to-the-minute information**

Even in this ultra-modern geodesic dome —



— as in all types of buildings

Door efficiency calls for Kinnear Rolling Doors

With no internal supports of any kind, yet big enough to enclose a football field, this giant geodesic dome houses a railroad car repair shop of the Union Tank Car Co., in Baton Rouge, La.

And here, as in all types of buildings, Kinnear Rolling Doors provide up-to-the-minute door efficiency.

They open straight upward and clear the entire doorway, coiling compactly above the opening. Surrounding floor, wall and overhead space, inside and outside the build-

ing is always fully usable whether the doors are opened, closed, or in action. This promotes full use of hoist, crane, conveyor, and lift-truck equipment.

Their continuous all-metal curtain gives extra protection against intruders, vandals, troublemakers, wind, weather, and fire.

Every Kinnear Door is Registered. Full details of all parts are kept permanently in Kinnear's fire-proof vaults. Parts are always replaceable. Your Kinnear doors will never be "orphans".

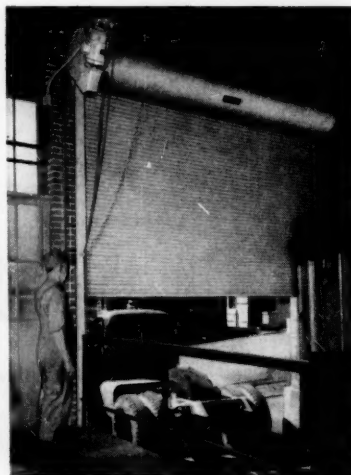
For maximum durability Kinnear's special hot-dip galvanizing coats the entire curtain with a full 1.25 oz. of pure zinc per square foot of metal (ASTM standards).

Kinnear Rolling Doors are built any size, for old or new buildings, with motor, manual or mechanical operation. Write for information.

The KINNEAR Mfg. Co.

FACTORIES:

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ROLLING DOORS
Saving Ways in Doorways

DIRECTED BY
 Richard Edmonds . . . 1882-1930
 Frank Gould 1930-1943
 William Beury . . . 1943-1955
 McKinley Conway . . 1956

MANUFACTURERS RECORD

(IN REVIEW)



MAY 1985

(AS ABSTRACTED MORE THAN 70 YEARS LATER)

BALTIMORE, MD.

"RETURNED EMIGRANTS"

Our correspondent at Marion, Va., sends us the following extract from the Marion Democrat: "A gentleman formerly from Alleghany county, N. C., passed through our town this week, on his return from the great West. He left this place about the first of April with a large party of emigrants, many of whom are disappointed in the advantages of the western country. He says that the country is vastly overrated by railroad agents and land speculators. Laborers are numerous and work hard to get. Wheat, the principal source of income to the farmer, is abundant and dull sale at 50 to 55 cents per bushel, whilst the other necessities of life are very dear, and to be had only for cash. The experience of many proves that there is little advantage gained by going West from a country of so varied resources as the mountainous section of Virginia and North Carolina. The same energy and skill exerted in this country will be equally well rewarded. Close application to a legitimate business, will almost invariably bring reasonable returns."

To the above our correspondent added that several parties of "returned emigrants" have lately passed through Marion and neighboring towns, on their way back to their old homes in Virginia and North Carolina, having learned by experience that their own country possessed advantages equally as great as the West.

MACHINE-TOOL CONSOLIDATION

Two prominent machine-tool establishments in Philadelphia have recently been consolidated, the new organization dating from May 1, 1885. The Machine Tool Works, Frederick B. Miles, engineer, 24th and Wood Streets, has been united with The Industrial Works, Wm. B. Bement & Son, Callowhill and 21st Streets, and hereafter the two establishments will be conducted as one concern, under the firm name of Bement, Miles & Co. The members of the new firm are Wm. B. Bement, Clarence S. Bement, Frederick B. Miles and Wm. P. Bement, and the principal office will be located at Callowhill and 21st Streets, Philadelphia. Both shops will be operated as heretofore, except that the work will be divided between the two shops, so as to confine the building of certain classes of tools, heretofore built by both, entirely to one shop and reserving the remainder entirely for the other shop. It is expected that a considerable economy in cost both of manufacture and sale, will result, while other and proportionate advantages are looked for as the result of the increased facilities thus gained.

NEW STITCHING MACHINE

Some time since we noticed the fact that Sterling Elliot, Newton, Mass., was engaged

in bringing out an ingeniously constructed machine for stitching and tying pamphlets. Since then he has re-designed this machine, in a way to considerably simplify it, and do away with a good many of its pieces. He has at present orders for about 80 of these machines, 50 of which are to go to England. He is putting in new machine tools, and will put in new engine and boiler.

FIRM LEASES NEW QUARTERS

The Chicago Branch House of the Pope Manufacturing Company, of Boston, has moved from the old quarters, 179 Michigan Avenue, to the new offices, 115 Wabash Avenue, the company having leased the entire building. The lower floor, which constitutes the salesroom, has a frontage of 36 feet and a depth of 155 feet, making it the largest bicycle wareroom in the world. The basement is of similar dimensions, and is neatly fitted up for a riding school. Major William M. Durell has the charge of the company's business at that point, and will carry a large and complete stock of the Columbia bicycles and tricycles, and a full line of parts and sundries.

SAW MILL WANTED

HENDERSON, KY. There is as good an opening here for a good first-class saw and planing mill as any place we know of. We have a thrifty growing city of about 8,000 inhabitants, located on the Ohio river 12 miles below Evansville, Ind., and 20 miles from the

mouth of Green river, which stream furnishes an avenue through which lumber is furnished Chicago, St. Louis and the Northwest by the numerous mills of Evansville, Ind. We only have one saw and planing mill in operation here, and we were told they made about \$25,000 last year, and we don't suppose they have over \$50,000 invested. Henderson has the reputation of being the wealthiest town or city (as you choose to call it) in America, in proportion to her population. How true this is I am unable to say, but we have heard it abroad as well as at home. We have repeatedly heard mechanics and contractors assert that if some good reliable firm would start a good saw and planing mill here they would undoubtedly get the business, and we believe they would, as we are charged \$18 per M for building lumber here, when Evansville sells for \$14, buys logs in the same identical market, and other prices in proportion. We do not write this to injure our present mill man, as he personally is a friend, but for the welfare of the city, and giving others an opportunity to investigate and see for themselves.

NEW DESCRIPTIVE CIRCULARS

The Cincinnati Corrugating Co., Cincinnati, Ohio, have issued new circulars descriptive of their corrugated iron shutters, corrugated iron ceiling, packed standing seam roofing, which will be of much interest to all who contemplate building or improving and fire-proofing their houses.

The True Idea of Assurance.

Women's Mutual Insurance

and ACCIDENT COMPANY.

PRESIDENT,
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FANNY M. GERARD, Treas.

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 The Company is incorporated under the Laws of New York, approved by the Supreme Court and Superintendent of the Insurance Department, and subject to the latter's supervision.

ITS OBJECT
 is surely and cheaply to provide an indemnity for loss by death and accidental disablement.

ITS PLAN
 consists in assessing the members ratably according to age in the Life Class, and according to occupation or degree of risk in the Accident Class whenever a loss in either class occurs. In other words, the actual losses only are paid by the policy holders, which thus secures insurance at cost.

ITS MEMBERSHIP
 comprises persons between the ages of 16 and 67, of approved physical condition. The Life Class is separate and distinct from the Accident Class, members being liable for losses only occurring in the class to which they belong. This company, having been organized for the purpose of removing the prejudices which created discrimination in Life insurance against women, has adopted the broad principle of no discrimination in membership on account of sex. This Company requires Agents in every city, town and village, to whom liberal terms will be given. Address as above.

ITS SAFETY AND SECURITY
 consists in its economical system, its certainty of solvency, (for it incurs no risk but what the members may discharge by encashment, and its SECURITY RESERVE FUND, which in time, it is calculated, will make a member's membership self-sustaining.

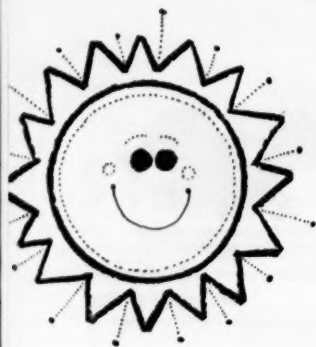
ITS RATES OF ASSESSMENT
 are safer than those adopted by others, and are no more expensive.

FINALLY,
 This company confines itself to the legitimate business for which insurance has been accorded protective and encouraging legislation: it proposes to adhere strictly to business principles in its management, and to establish the fullest protection to its members in a manner the simplest, cheapest and most complete of any organization of equal safety. Membership may be acquired by letter. Apply to

ELIZABETH S. ROBERTS, Secretary.

233 Fourth Avenue, New York.

To whom liberal terms will be given. Address as above.



SOUTHWEST AREA WEATHER FACTORS

Weatherman P. C. Kangieser, who holds forth in the most sunshiney part of the nation, relates in this report, the last of a series, how the climate affects plant planning and site selection in the Southwest

By P. C. Kangieser

THIS is the last in a series of articles on the climate in various sections of the continental United States and its relation to industrial plant location. The geographical area covered in this article will be Nevada, Utah, Colorado, Arizona, New Mexico, and Texas. This area comprises over $\frac{1}{4}$ of the total land area of the continental United States and contains some of the greatest variations in altitude (and climate) in the country. Therefore, after a general discussion of the general climatic features of the whole area, each State will be treated separately in more detail.

At the outset, it will be necessary to have some understanding of four important factors which exert an influence on local climate. These are: (1) latitude, (2) altitude, (3) moisture sources, and (4) orientation of mountain ranges. Briefly, these factors are important in the following ways.

(1) *Latitude.* Other exposure factors being equal, stations at higher latitudes are cooler than those farther south. This effect produces a decrease in mean annual temperature of approximately 1.5° to 2.0° F. per 1° latitude increase.

Latitude also affects the distribution of precipitation in the western United States. During the winter, many storms

enter the west coast and move across the country in a general west to east direction. This behavior, together with the fact that more storms enter the coast at high than at low latitudes, means that there is a tendency for high latitude stations to get more winter precipitation than those at lower latitudes.

(2) *Altitude.* Again, other factors being equal, higher altitude stations are cooler than lower altitude stations. The amount of decrease of mean annual temperature with increasing height averages about 3° F. per 1,000 feet.

In addition, high altitude stations usually receive more precipitation than nearby stations at lower levels. This is due to the added lift given to moist air as a storm moves over a mountain range. This lifted air expands, cools, and its moisture is precipitated as rain or snow. Thus, greater amounts of rain or snow can be expected with increasing elevation.

It should be emphasized that these "rules of thumb" for the effects of latitude and altitude on climate depend on "other factors being equal." Needless to say, other things seldom are equal, so that these rules can be applied only in discussing large-scale climatic features as indicated by long-term averages.

(3) *Moisture sources.* The amount of precipitation and humidity observed at a station are both highly dependent on (a) the distance from the station to a large source of atmospheric moisture, and (b) the location of this source with respect to prevailing winds. For these six southwestern States, the major sources of water-vapor are the Pacific Ocean and the Gulf of Mexico. The Gulf of California sometimes supplies moisture for local storms in southern Arizona, but it cannot be described as a major moisture source, even for that State.

(4) *Orientation of mountain ranges.* The orientation with respect to prevailing winds (as well as the altitude) of nearby major mountain ranges, exerts important effects on local climate. Stations on the lee side of high mountains frequently get less precipitation than those on the windward side. Lee-side stations also tend to be warmer than those on the opposite side of the mountain range when at approximately the same elevation.

Seasonal Weather Patterns Of The Southwest

Seasonal weather changes over this six-State region are largely the result of the seasonal migration of two large high-pressure centers: the "Pacific

High" and the "Bermuda High."

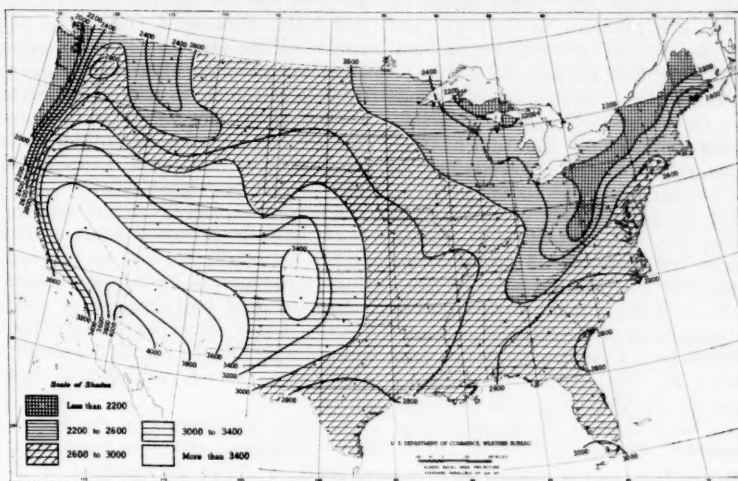
The Pacific High. This is a large high-pressure area, or "anticyclone", which occupies a large portion of the Pacific Ocean between California and Midway Island. During the wintertime, it is in its most southerly position and is relatively weak. This allows storms to swing around its northern edge and enter the west coast, sometimes as far south as Lower California. During the summer, however, the Pacific High increases considerably in strength and is normally centered farther to the north and east than in the wintertime. Thus storms are "blocked" from entering the west coast except at high latitudes, and Pacific Ocean cyclonic storms have little effect on the weather in the southwestern States in the summer.

The Bermuda High. Another large region of high atmospheric pressure is situated in the southern North Atlantic Ocean, to the east of Bermuda. During the winter this center is weak and far out to sea, but as summer approaches it builds a strong extension of high pressure westward into the Gulf of Mexico. This produces a deep flow of water-vapor from the warm waters of the Gulf over portions of the southwestern States.

Cold-Season Patterns (October-March)

As a result of these large-scale changes in the atmospheric circulation, storms track across Nevada, Utah, and Colorado more frequently during October-March than over the three southern States. However, as the moist marine air rides over the lofty Sierras and Cascades, it is lifted, expands, cools, and a major part of the moisture it contains falls out as precipitation on the western slopes and summits of these ranges. For this reason, when storms enter Nevada, they have less potentiality for producing precipitation, and lower elevation sections in the western half of that State receive little precipitation during this season. The eastern half of the State is more mountainous and receives somewhat more winter precipitation than the western part. The more rugged terrain in parts of Utah and Colorado provide each of those states with more cold-season precipitation than Nevada. The diminishing effect on rain and snow in this region by the passage of storms over the west coast ranges, is well indicated by the fact that the highest mountain stations in Colorado average only about one-seventh as much cold-season precipitation as high elevation stations in the

Average Annual Amount of Sunshine, in Hours



Sierra and Cascade mountain ranges.

Although not as many cold-season storm tracks across the southern three States, other features help to compensate for this lower frequency of storm passage. Storms entering Arizona and New Mexico usually have not crossed the highest ranges of the Sierras, but have entered the continent via southern California or, sometimes, Lower California. For this reason they are not so depleted of moisture as storms with higher latitude trajectories. This fact, coupled with the rugged terrain in both States, gives them more cold-season precipitation than Nevada, in spite of the latter's higher latitude.

In the case of Texas, there is a tendency for storms that have crossed the Continental Divide to intensify after they have moved into Texas and have received an additional inflow of moist, warm, tropical air from the Gulf of Mexico. Thus, although the flatlands of western Texas receive little cold-season moisture (due to lee-side effects of the Continental Divide), increased moisture from the Gulf of Mexico assures ample precipitation over the eastern section of Texas, which has the greatest annual precipitation of any of the other five States.

Warm-Season Patterns (April-September)

In spring, the Pacific High strengthens and moves northward; storms become less frequent and tend to move across the country at higher latitudes. Late in the spring and early summer, the Bermuda High develops its western extension into the Gulf of Mexico and warm, moist, tropical air from that source begins to move from a south-

easterly direction over the Southwest. This flow gets weaker farther to the west and less moisture is transported inland. Texas, New Mexico, and Colorado are far enough east that most parts of those states are normally under the influence of this warm-season flow. Western Arizona and western Utah, however, receive considerably smaller amounts of moisture than their eastern sections. Nevada is too far west to receive significant Gulf moisture, so that its precipitation is also very light during the warm-season, making it the driest State in the country for the year as a whole.

During September, the Pacific High and the Bermuda High begin to weaken. By fall, storms from the Pacific start moving across the country at lower latitudes and the Pacific Ocean gradually takes over again as the major storm source for the Southwest.

A Closer Look At Southwestern Climate

So far we have had only a general picture of weather patterns in these six States. Now let's look at the climate of each one of them in more detail.

Nevada Nevada is, for the most part, a vast plateau with many mountain ranges, most of them 50 to 100 miles long, running generally north and south. The eastern part of the State averages between 5,000 and 6,000 feet in elevation; the western portion between 3,800 and 5,000 feet above mean-sea-level. The massive Sierra Nevada Range lies just to the west of the State and has a marked influence on its climate.

The most striking features of Ne-

vada's climate are bright sunshine, little precipitation in valleys and deserts, dry air of great clarity, and very large daily temperature ranges.

As mentioned earlier, a large part of the air entering Nevada crosses the Sierra Nevada, and loses much of its moisture in California. Nevada has, on the average, less precipitation than any other State, and most of that occurs during the winter season. Precipitation ranges from less than 5 inches in the valleys in the western and southern parts of the State, to 15 to 18 inches in the mountains of northeastern Nevada. Nevertheless, a number of the western valleys are irrigated by the melting snows of the Sierras, so that there are many large ranches raising pure-bred livestock.

Humidities are also very low the year-around. Because of the non-corrosive nature of the atmosphere, outside storage of tools and equipment is feasible for many industrial purposes.

As the sunshine map shows, Nevada receives a large amount of sunshine during the average year. Nevada's air is not only dry but also largely free from haze and other pollutants, so that an unusually high percentage of incoming solar radiation reaches the ground. This property of the air also allows the ground to cool rapidly at night, so that the difference between daytime and nighttime temperatures is about as great as can be found in the nation. At Reno, this difference averages 45 degrees in July and sometimes amounts to over 60 degrees under unusual conditions.

In the northeastern section, summers are short and hot, winters long and cold. In the west, summers are also short and hot, but winters are only moderately cold. In the south, summers

are long and hot and the winters short and mild. Prolonged periods of extreme cold are rare due to the mountain barriers. Although afternoon temperatures in the southern part of the State average above 100 degrees in the summer, the extremely low humidities make the heat less noticeable. Evaporative coolers work with great efficiency.

Winds are generally light, and the small amount of wind damage that occurs is usually limited to the east slope of the Sierras. Thunderstorms are infrequent and hail damage is rare. Locally heavy downpours sometimes occur during thunderstorms, but usually affect only sparsely settled mountain areas.

Construction operations are seldom delayed by precipitation. Penetration of walls by direct precipitation is almost unknown. Basements present few water problems and stone and concrete structures, in general, suffer far less deterioration due to water and freezing than in most other States.

Winter Sports

Snowfall in the mountains in the northern part of the State is usually heavy, making skiing a favorite winter sport. The State also offers fishing, hunting, and boating. There are many places of historical interest and a number of widely-known entertainment centers.

Utah The topography of Utah is extremely varied, since most of the State is mountainous. A series of ranges runs generally north and south through the middle of the State; the Wasatch Mountains are part of this group. The Uinta Mountains, which extend east and west through the northeastern portion of the State, make up another principal range.

The crest lines of these ranges are mostly above 10,000 feet mean-sea-level. The lowest section of the State is the Virgin River Valley in the extreme southwestern part, with elevations between 2,500 and 3,500 feet.

Precipitation varies greatly, from an average of less than five inches annually over the Great Salt Lake Desert (west of Great Salt Lake), to more than 40 inches in some parts of the Wasatch Mountains. The average annual precipitation in agricultural areas is between 10 and 15 inches, making irrigation necessary; however, there is usually sufficient water for most irrigated lands due to the proximity of mountain reservoirs. Runoff from melting snow reaches its peak in April, May, or early June, and sometimes causes flooding along the lower streams; however, damaging floods of this kind are infrequent. Flash floods from summer thunderstorms are more frequent but affect only small, local areas.

Temperatures above 100 degrees occur occasionally in summer in nearly all parts of the State. Low humidity, however, makes such temperatures more bearable in Utah than in more humid regions. During the warmer season of the year, a large percentage of commercial establishments and factories throughout the State are air-conditioned by refrigeration methods, but only a small portion of residences are so air-conditioned. Due to the low humidity, evaporative coolers operate very efficiently and are used extensively in private residences. Temperatures below zero during winter and early spring are uncommon in most areas of the State; prolonged periods of extremely cold weather are rare, due to the sheltering effect of the mountains east and north of the State.

Sunny skies prevail most of the year. For example, Salt Lake City averages between 65 and 75% of possible sunshine during spring, summer, and fall, with about 50% of the possible amount in wintertime. Smoke pollution is somewhat of a problem in the valleys of northwestern Utah, and is worse during the late fall and winter months when cold, stable air settles over the Great Basin, sometimes for several weeks at a time.

During the summertime, plenty of sunshine, dry air and moderate wind movement combine to produce rapid evaporation. This aspect of the Utah climate is utilized by a number of salt companies to produce salt from the brine of Great Salt Lake by the evapo-



ABOUT THE AUTHOR

Although he was born in Topeka, Kansas, Paul C. Kangieser was reared in the sunshine of Los Angeles and knows whereof he speaks about the weather of the South-eastern United States. A graduate of the University of California at L.A., Mr. Kangieser served as weather officer at several air bases in the U. S., India and China. Beginning his Weather Bureau service in 1946 as flight-advisory forecaster at Oakland, California, he subsequently held other positions in San Francisco, New England and Washington before returning west as State Climatologist for Arizona.

WEATHER FACTORS

ration process. The production of salt by this method begins in the spring and continues until fall.

Tornadoes are rare. Blizzards occur rather infrequently during the colder season of the year and are usually of short duration. Hail storms occasionally cause damage over small areas during the spring and summer months, although the hail is generally small. Dust storms also are observed at times, and are more likely during the spring.

Since winter snowfall is moderately heavy, particularly in the northern mountains, skiing is a favorite pastime. There are numerous recreational and tourist attractions, such as lakes, rivers, historical areas, national parks, national monuments, and national forests. Fishing, big game hunting, and upland game-bird hunting are excellent.

Colorado Colorado is the highest State in the Union. Its average altitude is about 6,800 feet above mean-sea-level. Approximately three-quarters of the nation's land above 10,000 feet altitude lies within its borders. The State has 54 mountain peaks that are 14,000 feet or higher, and about 830 peaks between 11,000 and 14,000 feet. Nearly all of the western half of the State is mountainous, while the eastern half is generally flat, broken by occasional rolling hills and bluffs.

Rugged Topography

The rugged topography of western Colorado results in large variations in climate from place to place. Lamar and the summit of Pikes Peak differ by 35 degrees in mean temperature—a difference in 90 miles equal to that between Florida and Iceland. The average annual snowfall at Cumbres is near 300 inches, while less than 30 miles away at Manassa it is less than 25 inches. The climate of the eastern, or plains, part of the State is distinctly continental. Its general features are low relative humidity; a large amount of sunshine; light rainfall, confined largely to the warmer half of the year; moderately high winds; a large daily range in temperature; high daytime temperatures in summer; and generally in the winter, some protracted cold spells.

A distinct difference between the climate of the western and eastern halves of the State is the comparative uniformity of weather from day to day in the western section, especially in the lower mountain valleys. Also, the cold waves of the eastern plains are comparatively rare in the western part of

May, 1959

47

To manufacturers of . . .

ELECTRONIC and ELECTRICAL EQUIPMENT

IN YOUR LONG RANGE PLANNING for the next 5 to 20 years, you have probably included a forecast on your engineering manpower requirements.

Whatever your requirements may be in this category, we have information available that can be helpful to you.

For example: *In the next 5 years 4924 students will graduate with BS degrees in Electrical Engineering from major*

colleges and universities in a 150 mile radius of Rock Island County, Illinois. (Fact No. 1 from our current survey.)

This survey includes many other facts that pertain to this kind of professional manpower: its availability, job preference, job location; also the institutions with laboratory and experimental facilities available to industry in this area.

You are invited to write to us for a copy of the complete up-to-date report. Address John A. Smithers, Executive Vice President, Blackhawk Industrial Promotion Association, 1610 5th Avenue, Moline, Illinois.



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IBM BOUGHT OUR FIRST
HERE'S OUR 2nd...

MODERN PLANT

GREATER

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Our second speculative plant is a 24,100 sq. ft. industrial building on 7 acres of a 40-acre developed industrial site in Burlington. City water & sewage. Expandable. Visit, phone, write for details and brochure.

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WEATHER FACTORS

the State. Mountain valleys in the western section (the South, Middle, and North Park areas) provide some of the finest cattle grazing lands in the country. The valleys of the Gunnison, Dolores, and Colorado Rivers in the extreme western portion are the site of extensive orchards of peaches, pears, apricots, and other fruits. Other sheltered valleys of western Colorado are used to raise vegetables, wheat, spring grains, alfalfa, and sugar beets.

At the western edge of the plains, nearing and into the foothills of the mountains, there are a number of significant changes in the climate as compared to that of the plains proper. Winds are much less severe, temperature changes from day to day are not as great, summer temperatures are lower, and winter temperatures are higher. Precipitation, which decreases gradually from about 17 inches annually along the northeastern border to less than 14 inches near the mountains, increases rapidly with increasing elevation in the foothills. At the present time, the heaviest concentration of population and industry lies in this zone, near Denver in a belt running north and south and about 50 miles wide.

Occasional Blizzards

Blizzards affect all of the eastern plains at times, but are most frequent in the northeastern corner of the State. There is also a fairly high frequency of damaging hail in the northeast. Tornadoes rarely occur in western Colorado and, in general, their frequency increases over the plains toward the eastern border of the State.

On the whole, Colorado has a cool, invigorating climate. During the summer there are hot days on the plains, but generally these are relieved by afternoon thundershowers. The mountain regions are nearly always cool. Humidity is generally quite low, which provides a relatively comfortable feeling, even on hot days. The thin atmosphere allows a greater penetration of the sun's rays and provides pleasant weather during the winter; this accounts for the relatively thin clothing skiers are frequently pictured wearing amid deep snow drifts.

Recreational activities throughout the State are numerous. The heavy snows provide unexcelled winter skiing, and many of the higher slopes remain blanketed well into the summer season. Excellent camping facilities are pro-

vided by the many national forests and national parks.

Arizona Arizona is the 6th largest State of the 49, but there are only about 1 million residents and approximately 1/2 of these live in the vicinity of Phoenix in the Salt River Valley. Much of the southern part of the State is flat desert country, noted for its sunsets and as a national habitat for the giant Saguaro cactus. Rugged mountains cover the central and eastern sections, with colorful high-elevation mesa country in the northeastern and the Grand Canyon in the northwestern sections of the State.

Clear skies are an outstanding feature of Arizona's climate. As the accompanying sunshine map shows, the highest average annual amount of sunshine in the United States is received in the desert section of southern Arizona. In Phoenix, where records have been kept since 1895, 85% of the possible amount of sunshine is totalled in an average year. Clouds are rare even in winter, and the cloudiest month in Phoenix (January) still averages 76% of the possible amount, which is more than the majority of Weather Bureau stations in the country average during their sunniest month.

Low humidity is another distinctive feature of Arizona climate. In the desert areas of the State, humidities are low enough in summer to make evaporative coolers efficient. Supplying such coolers for home and industry has become a major business in recent years. Evaporative cooling towers also operate well for most industrial purposes. Temperatures vary considerably over the State. For example, winter temperatures in Yuma (in the southwestern desert at 200 feet above mean-sea-level) closely approximate summer temperatures at Flagstaff (in the northern mountains at 7,000 feet). Summertime temperatures in the desert are usually over 100 degrees in the afternoon, but drop into the seventies at night because of the dryness of the air. Winter temperatures in the desert usually reach the middle sixties or low seventies in the afternoon and stay above freezing at night, although frosts have occurred in all sections of the State. The ground seldom freezes in localities below an elevation of 3,000 feet, but near 9,000 feet the frost level usually extends to 3 feet or more during an average winter.

Precipitation ranges from barely 3 inches in the extreme southwestern corner to more than 30 inches per year in parts of the White Mountains in the

east-central section of the State. Irrigation projects usually provide sufficient water for agriculture and industry, but local water shortages can develop in severe drought years. Heavy downpours of short duration sometimes occur during the summer, but are associated with thunderstorms which usually cover a relatively small area; the maximum 1-hour rainfall observed in Arizona is about 1.5 inches, compared to 3 to 4 inches in many other States. Heavy rain of longer duration, say 24 hours, is even rarer because such rainfall is usually produced by hurricanes, and these seldom affect this region; maximum 24-hour totals are between 4 and 5 inches in Arizona, compared to 10 to as much as 20 inches in other States.

Hail sometimes occurs with some of the more severe thunderstorms, especially during the summer season. The incidence is well below that in most of the other western and midwestern States, however. Damaging tornadoes are also rare in Arizona.

Smoke pollution is a growing problem as population increases, especially in the Salt River Valley where the growth is particularly great. The temperature inversion that traps the pollutants near the ground, however, normally disappears each afternoon; therefore, it is unlikely that a problem will develop comparable to that faced by some cities on the west coast, where temperature inversions sometimes persist for long periods.

Outdoor Fun

Recreational facilities for employee enjoyment are numerous. In the out-of-doors department, skiing is available during the winter, while hunting and fishing are popular during the other seasons. In the summertime, a one-hour drive northward over a modern high-speed highway takes Salt River Valley residents away from desert heat to high pine country where air-conditioning is not required. Boating is becoming increasingly popular, as many of the State's reservoirs have been opened to this sport.

New Mexico The topography of New Mexico is extremely varied, with elevations ranging from 3,000 feet along the southeastern border to about 14,000 feet at the top of the highest mountains. Approximately the western two-thirds of the State is mountainous, while the eastern third is plains—a western extremity of the Great Plains area.

New Mexico is semiarid. Some farm-

ing is done without the aid of irrigation, but for the most part, all agricultural areas are dependent upon irrigation for successful crops. Precipitation varies from less than 10 inches in the Rio Grande and San Juan Valleys to over 30 inches in the high regions along the north-central border. Most of this moisture comes in summer thunderstorms and prolonged rains are rare, especially in the central and western sections. Some of these showers are rather intense and amounts of 2 inches of rain per hour have been observed in the

southeastern part of the State. This rate of rainfall is still only about $\frac{1}{2}$ as great as maximum intensities observed in many of the eastern and southern States.

Snow falls in every part of the State, increasing in amount with altitude and latitude from 2 to 5 inches per year in the lower Rio Grande Valley to nearly 300 inches over the crest of the main ridge of the Sangre de Cristo Mountains.

Temperatures vary widely with elevation and latitude, the annual mean

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decreasing from the middle sixties in the lower Pecos and Rio Grande Valleys to the middle thirties at the higher stations in the Sangre de Cristo Mountains. The eastern section has some of the characteristics of the Great Plains, with large daily, monthly, and annual variations in temperature. Over the mountains in the western sections these variations are not so great.

Humidities are usually comparatively low, generally ranging from about 60% in the morning hours to 30% in the afternoons, and dropping to 20% or less in late winter and spring. Evaporative cooling is quite effective throughout the State.

As the map indicates, New Mexico receives an abundance of sunshine. The frequency of clear skies is high during the winter as well as the summer months.

The prevailing direction of the kind in New Mexico is west or southwest for nearly all localities, with a few variations from these directions due to local topography. Average wind speeds are fairly high in all but sheltered districts, particularly during the spring and early summer months. The wind is usually strong and steady enough to operate wind-driven pumps and electrical gen-

erators with good reliability. There is enough air movement throughout the State that smoke pollution probably will not be a problem as industry develops. At the same time, there is seldom enough wind to hamper construction activities.

Tornadoes have occurred in all sections of the State but occur most frequently over the eastern plains. Blizzards are also most common to the eastern plains. Hail accompanies many of the thunderstorms with the most damaging storms in the southern and eastern part of the State. Blowing dust sometimes becomes a problem for short periods during late winter and spring.

Natural Beauty

The State is widely known for its great natural beauty and offers many places of interest for the sightseer. Fishing and hunting are also very good, particularly in mountain areas.

Texas With the exception of the area west of the Pecos River in extreme western Texas (the Trans-Pecos Area), the terrain of Texas consists mostly of flat or gently rolling plains country. The Trans-Pecos Area is a plateau 3,000 to 5,000 feet high, and is traversed by several mountain ranges which are part of the Rocky Mountain system.

The climate over the major portion of the State is continental, characterized by rapid changes in temperature, marked extremes, and large temperature ranges, both diurnal and annual. The climate in the mountains of the Trans-Pecos Area is cooler throughout the year than that over most of the adjacent lowlands; however, the day-to-day extremes are not as great during the winter due to the sheltering effect of the mountains. The moderating influence of the Gulf of Mexico on temperatures extends about 100 miles inland, so that a coastal strip has a climate bordering on the marine type—characterized by comparatively pleasant summers, mild winters, cool springs, and warm autumns. Although summer weather along the Gulf is often hot and humid, a sea-breeze can usually be counted on to bring relief in the afternoons. No part of the State is free from occasional periods of excessive heat when temperatures of 100° F. or higher are recorded, nor from occasional periods of freezing temperature; although the coastal counties and the lower Rio Grande Valley experience damaging freezes only at infrequent intervals.

Precipitation is heaviest over eastern Texas, especially in the extreme southeastern part, and diminishes steadily westward. The average amount in the extreme eastern part is over 50 inches per year, while in parts of the extreme west it is less than 10 inches. The greater part of the State has an annual average of over 20 inches, and most of it has enough precipitation to supply agricultural needs without irrigation. However, there is a considerable area west of the 101st meridian where it is necessary to resort to irrigation, where possible, or use conservation methods to produce crops; and there is also a considerable area that cannot be cropped at all.

Snow rarely occurs in the coastal counties. A few stations have never had any in their climatological histories, but the amount increases from the coastal plains to the high plains of the Panhandle, where the annual average is nearly 20 inches.

Hail occurs in all sections of the State, but is infrequent in coastal districts. It is most frequent and severe in the Panhandle counties.

The absence of sheltering mountains or extensive forests, and the great extent of plains and prairies give the wind free play. Wind power is available most of the year for operating wind-driven pumps and generators.

Lots of Sunshine

As the accompanying map shows, the western part of the State, particularly the Panhandle, receives a lot of sunshine. The eastern and southern sections receive about as much as the other Gulf States.

Tornadoes are least frequent in the western and coastal counties and most frequent in the north-central plains area. Hurricanes, on the other hand, affect the interior counties less frequently than the coastal counties. While severe damage has been done to Texas coastal installations by hurricanes in the past, Gulf states farther to the east suffer a greater hazard from these storms.

Nearly every kind of recreational activity is to be found in the State. The mountainous area in the western part of the State offers fishing, hunting, and riding. The coastal region provides a variety of activities the year-around. Hunting and fishing are favorite activities in the pine forests of the eastern section.



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Cleaver-Brooks Sets the Pace

With plants strategically placed to serve both national and international markets, the packaged-boiler manufacturing firm of Cleaver-Brooks Company gears its growth to market potential. Expansions, cautiously made and carefully planned, are made both by enlargements of existing plants and by acquisitions, accompanied by continuous strong sales promotion.

"OPERATION Fourth Phase"—an industrial expansion program—was outlined for INDUSTRIAL DEVELOPMENT by J. C. Cleaver, president of Cleaver-Brooks Company, Milwaukee, Wis., originator and leading manufacturer of packaged boilers for industrial, institutional and commercial application.

The program covers the acquisition of Springfield Boiler Company, Springfield, Ill., and is part of an over-all expansion which includes the doubling of the firm's eastern manufacturing center at Lebanon, Pa., the erection of a new plant in Stratford, Ontario, and improvements and modernization of facilities in Milwaukee. This end of the expansion is costing an additional \$2 million.

At Springfield, \$500,000 goes for the actual purchase of the business with an additional \$500,000 to cover working capital requirements.

According to Mr. Cleaver his firm has been anxious to move into the water tube boiler field so that the firm would be able to service all major boiler markets. In the past, the firm has concentrated on the production of packaged fire tube boilers for process and comfort

applications in a range up to 20,000 pounds of steam an hour.

Through the Springfield water tube boiler lines, package plants now range to 50,000 pounds of steam an hour and up to 300,000 pounds for field erected units. Used in combination, these units can provide municipal steam for all but the largest cities.

Mr. Cleaver added that one of the first things his firm is going to do is to vigorously push sales. He said, "We know that the present plant has proven capacity for above present output. We hope to fill the plant with orders and to have it operating nearer capacity in the not too distant future."

In line with the market broadening, Mr. Cleaver noted that his firm's strong distribution agency throughout the United States and Canada will considerably expand sales possibilities for Springfield Boiler products. Cleaver-Brooks has sales representatives in every state in the U. S., every province in Canada and throughout the rest of the western hemisphere. In addition, its export facilities are operating throughout the world.

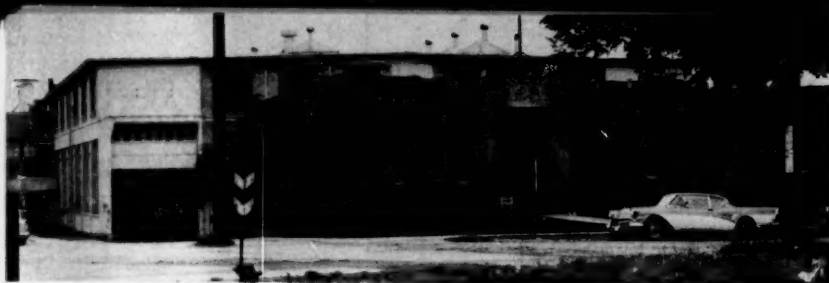
Springfield Boilers were founded in 1890 and remained in the founder's

hands until 1946 when it was sold to the Paul H. Davis Company, Chicago. In 1953 it was sold to the John W. Hobbs corporation, remaining as a division of the Hobbs corporation until 1955 when Hobbs merged with Stewart Warner. At that time, Springfield Boiler emerged again as a separate corporation with stock ownership transferred to several former stockholders of the Hobbs corporation. There it remained until the purchase by Cleaver-Brooks.

During 1946, Springfield Boiler expanded into the design, manufacture, and installation of bent tube boilers and pioneered in the development of a unique water tube packaged boiler which is delivered as a unit, ready for skidding or lifting into position for quick installation on a concrete floor or simple foundation.

The firm has provided steam generating equipment for numerous government projects including Army, Navy and Marine bases as well as furnishing boilers for Liberty and Victory ships during World War II.

Other installations include equipment for colleges, hospitals, and municipalities and for many large manufacturing concerns throughout the country. It lists among its repeat customers such



This is the Cleaver-Brooks plant in Milwaukee, Wisconsin, which recently was improved and modernized as part of a comprehensive expansion program aimed at increasing production and efficiency in the output of packaged boilers.

well-known firms as Caterpillar Tractor Company, John Deere Company, Atomic Energy Commission, International Harvester, Minneapolis Mining & Manufacturing, General Mills and General Motors.

The firm's products are in operation in every state in the nation and it has equipped more than 50 state institutions with modern boilers. Its units are functioning in 17 foreign countries.

Included in the purchase price is a four-story office building and a 60,000 sq. ft. production plant in Springfield, Ill. It also includes designs, patents, machinery, some inventory and 12 acres of land.

Mr. Cleaver refers to the Springfield acquisition as the fourth phase of an over-all expansion program.

He outlines the entire program thus:

"After our original Milwaukee plant had been just about doubled in size in 1951, we set our sights on a four-phase development program. The first was realized with the acquisition of our Waukesha plant. The second materialized when we set up our eastern manufacturing center in Lebanon, Pa., in 1956. The third was the doubling of that eastern plant and the establishment of a Canadian plant. The fourth is the acquisition of a water-tube manufacturing business."

"There is no question in our minds that with these new facilities, we will be able to provide faster and superior service to our customers in both the United States and Canada.

"At the same time, this does not mean that our expansion program has come to an end. We envision a fifth, sixth and even a seventh phase but it would be premature for us to discuss these developments at this time."

Phase three of the operation is rapidly nearing completion.

This includes a 70,000 sq. ft. addition to the firm's Lebanon, Pa., center and a new 25,000 sq. ft. production facility in Stratford, Ontario.

According to Mr. Cleaver, the Lebanon expansion is more than doubling production space at the firm's eastern

manufacturing center set up only two years ago. The addition, costing about \$1 million, was completed in December, 1958.

The other half of the program—the Stratford plant—involves an estimated capital outlay of about \$900,000. The plant, being erected on a 10-acre parcel of land within the city limits, is slated for production in 1959. The exterior of the building has just been completed and machinery will begin moving in early in the year.

Variety of Uses

The new plant will be used for the production of boilers for industrial process and heating applications in the food, dairy, beverage, chemical and related fields, and institutional and commercial installations in schools, hospitals, churches, apartment buildings, stores and restaurants in Canada.

A good many of the revolutionary production techniques which were developed for the first time when the Lebanon plant was opened in 1956 will be carried over into the new addition and the Canadian plant.

Mr. Cleaver said, "This plant was the talk of the industry with its highly mechanized production techniques for packaged boilers. In our new plants we plan to go one step further in the utiliza-

John C. Cleaver is a man who knows his way around when it comes to boilers.

The company he heads as president, Cleaver-Brooks Company, Milwaukee, is the foremost packaged boiler manufacturing firm in the nation. And, most of the products handled by the company were invented by Mr. Cleaver.

A native of Oregon, Illinois, he attended the University of Chicago and is an engineer by profession. For several years he owned and operated the J. C. Cleaver Company in his home town. Then, in 1931 he organized the present firm with R. E. Brooks. From that year through February, 1943, he served as vice president and treasurer. After that he was elected president and has held that position ever since.

CLEAVER-BROOKS

tion of these machines and methods."

The firm's line of flash evaporators for the production of fresh water from sea water without scaling will continue to be produced only by the Cleaver-Brooks Waukesha plant, Phase One of the expansion.

Under the name of Cleaver-Brooks Special Products, Inc. a wholly-owned subsidiary of Cleaver-Brooks Company, the firm is producing equipment for providing pure water in pharmaceutical, marine, municipal and off-shore oil drilling rig uses.

Cleaver-Brooks was organized in 1930 and introduced the first packaged boiler to the American market in 1931. The firm experienced consistent progress through the pre-war years.

During World War II, it demonstrated its engineering and research diversification by developing mobile boilers, water heaters, shower units, and steam disinfectors for the military forces. Other rush research projects included melting equipment for providing water in Arctic regions, thawing equipment for maintaining open drainage on the Alcan highway, portable steamers to deactivate bombs, and batch plants for the dehydration of vegetables. The firm was also the principal supplier of packaged boilers on landing craft and other naval vessels.

Switching to peacetime needs, Cleaver-Brooks adapted its units for recovery of pure sulphur from refinery gases—important in air pollution programs—and special boilers to produce carbon dioxide for fire extinguishing equipment. The firm continues to be the largest manufacturer of packaged boilers for a great variety of industrial, commercial, and institutional applications.

Development of its distillation equipment dates back to World War II during which the company became the principal producer of portable distillation apparatus for the Armed Forces.

Today, Cleaver-Brooks flash evaporators have gained important acceptance. Recent contracts include flash evaporators for the new super carrier U.S.S. Independence; the first nuclear powered aircraft carrier Enterprise, the first nuclear powered merchant ship, and a Pacific Coast pilot plant.

These advances have enabled Cleaver-Brooks to almost triple its sales during the last decade.

"With our new facilities, we will be able to up our sales and production goals to continuing new highs," he declared.

RECEIPTS

By Suzanne Johnson

For Your General Check List File:

Value of Shipments of Selected Classes of Products, for the United States: 1957, 1956, 1955 and 1954. Bureau of Census, Washington 25, D. C. 25 pages. 25 cents.

Taxation and The Shopping Center. A statement of policy. Urban Land Institute, 1200 18th Street, N.W., Washington 6, D. C. 4 pages.

Practicalities in Shopping Center Operations. A symposium on branch banking, shopping center leasing and advantages in developing small shopping centers. Urban Land, February, 1959. Urban Land Institute, 1200 18th Street, N.W., Washington 6, D. C. 12 pages. \$1.00.

The Impact of the Peaceful Uses of Atomic Energy on State and Local Government. A summary of papers and discussions. Atomic Industrial Forum, Inc., 3 East 54th Street, New York, New York. 92 pages. \$3.50.

The Text of A Model Zoning Ordinance, with Commentary by Fred H. Bair, Jr. Public Administration Clearing Service, University of Florida, Gainesville, Florida. 83 pages. \$1.00.

The Challenge of Metropolitan Growth by Dr. Philip M. Hauser. Urban Land, December, 1958. Urban Land Institute, 1200 18th Street, N.W., Washington 6, D. C. 8 pages. \$1.00.

Cycles and Trends in Textiles by Thomas Jeff Davis. Some of the basic factors that bring about changes in levels of activity in the textile industry are examined in the hope of explaining the causal relationships by which they are linked to mill activity. Superintendent of Documents, Government Printing Office, Washington 25, D. C. 61 pages. 40 cents.

Compendium of City Government Finances in 1957. Bureau of the Census, U. S. Department of Commerce, Washington 25, D. C. 148 pages. \$1.00.

Spacing and Location of Interchanges on Freeways in Urban and Suburban Areas by Max S. Wehrly. Urban Land, October, 1958. Urban Land Institute, 1200 18th Street, N. W., Washington, D. C. 6 pages. \$1.00.

Industrial Pattern of Bank Loans. New England Business Review, December, 1958. Federal Reserve Bank of Boston, Boston, Massachusetts. 8 pages.

Effects of Industrial Parks on The Community by Robert E. Boley. Urban Land, November, 1958. Urban Institute, 1200 18th Street, N. W., Washington, D. C. 6 pages. \$1.00.

Chemical Economics Handbook Installment October, 1958. Stanford Research Institute, Menlo Park, California. 60 pages.

75 Housing Areas, Annual Summary 1957. This is the third annual summary of 75 Housing Areas which analyzes local and regional differences and pin-points the areas which offer the greatest opportunity as well as the ones which have not fared as well. To highlight the dimension and direction of the fix-up market, a special table depicting the number of property improvement loans under Title I, FHA is included. Major headings are housing, population, economic indicators and mortgage activity. Housing Securities, Inc., 250 Park Avenue, New York, New York. 38 pages.

For Your Area File:

1958 Survey of Wages, Policies and Benefits, Clerical and Hourly Employees—Dayton, Ohio. A survey on wages, hours of work, and supplementary benefits to be used as a reference for persons interested in various rates of pay for different occupations in the Dayton metropolitan area. The study contains usable data from 41 Dayton metropolitan firms representing a total employment of approximately 40,000 persons. Dayton Area Chamber of Commerce, Biltmore Hotel, Dayton, Ohio. 68 pages. \$10.00.

Metropolitan Oakland Area—The Broad Picture. A brochure covering the highlights or first facts to be considered by the site-seeker. Metropolitan Oakland Area, 1320 Webster Street, Oakland, California. 18 pages.

New Mexico—Nucleus of the Southwest. A compilation of figures, charts, and pictures setting forth the attractions of the area. New Mexico Economic Development Commission, P. O. Box 706, Santa Fe, New Mexico. 32 pages.

Warren County, Pennsylvania. Manual of facts for industrial development. Warren Area Chamber of Commerce, Box 536, Warren, Pennsylvania. 109 pages.

Factors in Industrial Location in Atlanta, 1946-55 by James E. Chapman and William H. Wells. This study attempts to determine the relative importance of the generally accepted factors of location in the decision of selected companies, to determine if the selected companies are "happy" in their present locations, how the costs of operation in Atlanta compare with costs of identical operations in other localities and what, if any, "special in-

ducements" were offered to industry to locate in the Atlanta area. School of Business Administration, George State College of Business Administration, Atlanta, Georgia. 39 pages.

Proceedings of the Eighth Texas Industrial Development Conference. Industrial Engineering Department, Texas Agricultural and Mechanical College of Texas, College Station, Texas. 70 pages.

Must Wisconsin Show More Kindness to Industry? by Burton E. Hotvedt, Vice President, Industrial Division, Klau-Van Pietersom-Dunlap, Inc., Commerce Building, Milwaukee 3, Wisconsin. 8 pages.

Hit Your Quota in South Dakota. Opportunities for industrial development. South Dakota IDEA, State Office Building, Pierre, South Dakota. 16 pages.

Proceedings Fourth Annual Arizona Industrial Development Workshop. Bureau of Business and Public Research, University of Arizona, Tucson, Arizona. 88 pages. \$3.00.

1958 Economic Development Report—Oklahoma City. Oklahoma City Chamber of Commerce, 200 Skirvin Tower, Oklahoma City, Oklahoma. 54 pages.

Orange County, California Fact File. Orange County Industrial Developers, Inc., 123 East 11th Street, Santa Ana, California. A package of Factfile sheets.

Western Resources Handbook data sheets, Issue Number 25. Stanford Research Institute, Menlo Park, California. 60 pages.

"Climate For Growth." Proceedings of the third annual Industrial Development Conference of the Chamber of Commerce of Honolulu, Chamber of Commerce, Dillingham Building, Honolulu 13, Hawaii. 166 pages. \$2.50.

The Dayton Report. Progress Review . . . 1949-1958. Dayton Area Chamber of Commerce, Biltmore Hotel, Dayton, Ohio. 18 pages.

Wisconsin Ports. Maps, charts and specific facts showing how Wisconsin ports link the great new waterway with rail, highway and air transportation systems. Includes detailed marine facilities. Wisconsin Division of Industrial and Port Development, State Capitol, Madison, Wisconsin. 44 pages.

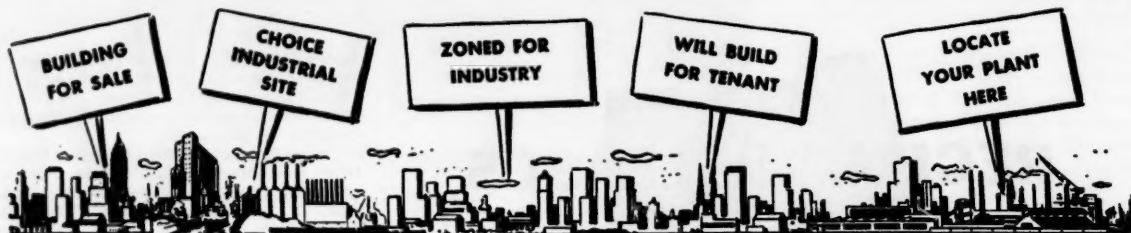
Gardenville. An industrial park brochure. New York Central System, Industrial Development Department, 466 Lexington Avenue, New York, New York. 8 pages.

Some Aspects of Municipal Finance in New Mexico by Arthur A. Blumenfeld. Bureau of Business Research, College of Business Administration, University of New Mexico, Albuquerque, New Mexico. 12 pages. 25 cents.

Palos Verdes Research Park. Research park brochure restricted to pure and applied research and development activities. Great Lakes Properties, Inc., 2 Portuguese Bend Road, Rolling Hills, California. 24 pages.

No sadder proof can be given by a man of his own littleness than disbelief in great men.

THOMAS CARLYLE
(1795-1881)



Industrial Districts

The following planned industrial districts have sites available for immediate construction. Advantages offered by such districts are described in detail in the November-December 1954 issue, pages 6, 7, and 8.

Services offered are indicated by the following code: (A) Architect & Engineer; (C) Construction; (E) Electric Power; (G) Natural Gas; (F) Financing; (P) Paved Streets; (R) Rail Sidings; (S) Sewers; (T) Telephone; (W) Water.

Iowa

IOWA "MANUFACTURING MEADOWS"—Clinton, Iowa (population 35,000). 138 miles west of Chicago on Mississippi River and Lincoln Highway (U. S. 30). 190 acres within city. Master plan by Skidmore, Owings & Merrill. Served by Chicago and North Western Railroad. Developed by Clinton Development Company, a civic-non-profit corporation. CHapel 2-4536. R. J. Stapleton, Managing Director. Services available: (a) (optional), (c), (e), (g), (f) (optional), (p), (r), (t), (w), restrictions.

Missouri

PAGE INDUSTRIAL CENTER—St. Louis—planned industrial park, developers—Page Industrial Center, Inc., 7811 Carondelet, St. Louis 5, Mo., Edward L. Bakewell, Realtor. CENTral 1-5555, on Rock Island lines, 60 acres with all services available on property. Restrictions.

Illinois

ILLINOIS INDUSTRIAL VALLEY: Cities of La Salle, Peru, Oglesby, Spring Valley. Ladd, DePue offer planned industrial sites. Excellent transportation via the Illinois River, 7 major railroads, numerous carriers. 2 U.S. Highways. Skilled workers. Power in abundance. Active ID organization to serve you. Robert Blomgren, Director, Box 446, La Salle, Illinois. Phone: CA 3-0227. Services: (a) optional, (c), (e), (f) optional, (g), (p), (r), (s), (t), (w).

Georgia

METROPOLITAN ATLANTA—Five Industrial Districts offering planned sites of varying location, size, price. Services available: (A) optional, (C), (E), (G), (F) optional, (P), (R), (S), (T), (W). In your Southeastern plant or warehouse survey contact: F. Wm. Broome, Industrial Manager, DeKalb County C of C, 250 E. Ponce de Leon Ave., Decatur, Ga. (Atlanta phone, DRake 8-3691).

Available Sites

SUBURBAN ATLANTA—Sites of 3, 5, 10, 25, 50, 100 or more acres. All utilities and rail service in DeKalb County—Georgia's newest industrial area. 70% urban with more than 200 industries in industrial districts and individual tracts. For your new Southeastern plant or warehouse location—inquire and visit through F. Wm. Broome, Industrial Manager, DeKalb County C of C, 250 E. Ponce de Leon Ave., Decatur, Ga. (Atlanta phone, DRake 8-3691).

Near the Crowd—But Not in It—Middlesex County, N. J. 20 Miles from New York—50 Miles from Philadelphia. On U. S. No. 1, N. J. Turnpike and Mainline P.R.R. Write for Booklet.

Middlesex County Industrial Department
County Record Bldg., New Brunswick, N. J.

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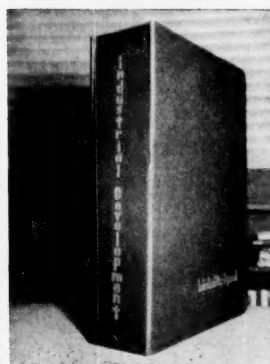
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PLANT LOCATION SERVICES:

Alabama Power Company, W. Cooper Green, Vice President in charge of Industrial Development, 600 North 18th St., Birmingham, Ala. (Ad page 49).

Anniston Chamber of Commerce, Leonard A. Gilbert, Manager Radio Bldg., Anniston, Ala. (Ad page 16).

Arkansas Industrial Development Commission, William R. Ewald, Jr., Chief of Development, State Capitol, Little Rock, Ark. (Ad 4th Cover).

Frank G. Binswanger, Inc., Frank G. Binswanger, 1420 Walnut St., Philadelphia, Pa. (Ad page 5).

Blackhawk Industrial Development Promotion Association, John A. Smithers, 1610 Fifth Ave., Moline, Ill. (Ad page 47).

Greater Burlington Industrial Corporation, Charles D. Townsend, Executive Director, Box 613, Burlington, Vt. (Ad page 47).

Carolina Power and Light Company, D. E. Stewart, Manager, Area Development Department, Ins. Bldg., Raleigh, N. C. (Ad page 15).

Colorado Department of Development, Lewis R. Cobb, Executive Director, State Capitol, Denver, Colo. (Ad page 47).

Chesapeake and Ohio Railway, Wayne C. Fletcher, Director, Industrial Development, 1103 C & O Bldg., Huntington, W. Va. (Ad page 14).

Florence Chamber of Commerce, Harry W. Hlott, Jr., Executive Vice-President, 131 W. Evans St., Florence, S. C. (Ad page 5).

Georgia Power Company, Gene A. Yates, Jr., Manager, Industrial Development Division, P. O. Box 1719, Atlanta, Ga. (Ad page 9).

Grand Central Industrial Centre, W. M. Clough, Vice President, P. O. Box 3157, Grand Central Station, Glendale, Calif. (Ad page 2).

Gulf States Utilities Company, Joseph DeJean, Advertising Department, Beaumont, Tex. (Ad page 35).

Johnson City Chamber of Commerce, Inc., Richard A. Boykin, Industrial Director, 339 East Main St., Johnson City, Tenn. (Ad page 3).

Knoxville Chamber of Commerce, Charles F. Herd, Industrial Director, Hotel Andrew Johnson, Knoxville 2, Tenn. (Ad page 11).

Manatee County Committee of 100, Harry Lee, Executive Director, Box 360, Bradenton, Fla. (Ad page 4).

Michigan Consolidated Gas Company, R. L. Gage, Manager, Industrial Development Division, 415 Clifford St., Detroit, Michigan. (Ad page 36).

Monroe Area Industrial Development Corporation, Walter Koch, Executive Vice President, Virginia Hotel Bldg., Monroe, Louisiana. (Ad page 13).

New York Central System, W. J. Marshall, Industrial Department, 466 Lexington Ave., New York, N. Y. (Ad 2nd cover).

State of North Carolina, Department of Conservation and Development, William P. Saunders, Director, Raleigh, North Carolina (Ad page 5).

Orange County Industrial Developers, Inc., Jess N. Stafford, 123 E. 11th St., Santa Ana, Calif. (Ad page 11).

Puget Sound Power and Light Company, Frank McLaughlin, President, 860 Stuart Bldg., Seattle 1, Wash. (Ad page 54).

St. Petersburg Chamber of Commerce, Jack Bryan, Director of Industrial Development, 4th St. and 3rd Ave., St. Petersburg, Fla. (Ad 3rd cover).

Southwestern Electric Service Company, E. W. LeNeveu, Mercantile Bank Bldg., Dallas, Tex. (Ad page 13).

Texas Power and Light Company, James D. Eppright, Director of Industrial Development, Fidelity Union Life Bldg., Dallas, Texas (Ad page 4).

Virginia Department of Conservation and Development, Raymond V. Long, Director, State Office Bldg., Richmond 19, Va. (Ad page 48).

Windsor Properties, Inc., W. C. Windsor, Jr., President, 211 Mercantile Commerce Bldg., Dallas, Tex. (Ad page 16).

PLANT CONSTRUCTION AND INDUSTRIAL SERVICES:

American Creosote Works, Inc., S. B. Braselman, Jr., Vice President, 1305 Dublin St., New Orleans, La. (Ad page 40).

Diamond Manufacturing Company, Wyoming-Wilkes Barre Area, Pa. (Ad page 36).

The Kinnear Manufacturing Company, Wallace Pearson, Vice President, 1191 Fields Ave., Columbus 16, Ohio (Ad page 42).

Southeastern Plastics Sales Company, Bradford L. Nicholson, 610 Morosgo Dr., N.E., Atlanta 5, Ga. (Ad page 40).

OTHER SERVICES:

Industrial Sound Films, Inc., Stancel L. May, Jr., Sales Manager, 2592 Apple Valley Rd., N. Atlanta 19, Ga. (Ad pages 15 and 50).

Production Die-Casting Company, P. W. Davis, President, 6502 Rusk Ave., Houston, Texas (Ad page 39).

ID SECRET SITE SERVICE

There may be sound reasons why you should wish to obtain preliminary information on possible sites without revealing your interest or identity. Recognizing this, INDUSTRIAL DEVELOPMENT offers a Secret Site Service to readers who hold positions of responsibility with manufacturers or other business firms having a legitimate interest in sites. Complete information, including site specification forms, will be sent promptly and confidentially at your request. Address SECRET SITE SERVICE, Conway Publications, Inc., North Atlanta 19, Georgia.



The Colonel Says

THIS IS AN OUTLOOK?

For the following scintillating business forecast we are deeply indebted to Mr. W. L. Fischer, Jr., President of Scriptomatic, Inc.

Business Forecast—The commerce department reports that sales and income figures show an easing up of the rate at which business is easing off, which is taken as proof of the government's contention that there is a slowing up of the slowdown.

In order to clarify the cautious terminology of the experts, it should be noted that a slowing up of the slowdown is not as good as an upturn in the downturn, but it is a good deal better than either a speedup of the slowdown or a deepening of the downturn, and does suggest that the climate is about right for an adjustment to the readjustment.

Turning to unemployment, we find a definite decrease in the rate of increase, which clearly shows that there is a letting up of the let-down. Of course, if the slowdown should speed up, the decrease in the rate of increase of unemployment would turn into an increase in the rate of decrease of employment. In other words, the deceleration would be accelerated.

But the indicators suggest rather a levelling off, followed by a gentle pickup rather than a faster pickup, a slowdown of the pickup, and, finally, a levelling off again of the pickup. At any rate, the climate is right for a pickup this season, especially if you are unmarried and driving a convertible. . . . but perhaps our mind is drifting away from our work.

LOOK WHO'S TALKING!

The government statisticians show concern over the fact that 25 per cent of American families live beyond their incomes. Look who's talking!

WHO'S CONFUSED?

We find the job of secretary one of never-ending enchantment especially when placing a long distance call and the destination office asks what city is calling. Then your own operator in turn says to you "What city is calling?"

THE MAN SAYS

Deeply disturbed by the prevalence of juvenile delinquency in his community, a certain writer was moved to present the situation in these stinging sentences:

"Our youth now love luxury. They have bad manners, contempt for authority, disrespect for older people. Children nowadays are tyrants. They no longer rise when their elders enter the room. They contradict their parents, chatter before company, boggle their food, and tyrannize their teachers."

The writer? Socrates. The time? The 5th century before Christ.

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Jack Bryan, Industrial Director

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*Virginia Morris and June Mann,
Arkansas Industrial Development Commission secretaries—
answering inquiries from the nation's industrialists
for the 500 page reference, The Arkansas Encyclopedia,
State Capitol, Little Rock.*



*Clara Howard, 83, "retired" Salvation Army Commandant—
visiting the old folks at the Pulaski County Hospital.*

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